

FINDING OF NO SIGNIFICANT IMPACT

Personal Watercraft Use

Lake Roosevelt National Recreation Area

The National Park Service (NPS) has prepared an environmental assessment (EA) that evaluates a range of alternatives and strategies for the management of personal watercraft (PWC) use at Lake Roosevelt National Recreation Area in order to ensure the protection of park resources and values while offering recreational opportunities as provided for in the park's purpose, mission, and goals. In accordance with the National Environmental Policy Act of 1969 (NEPA), NPS is taking action to adopt special regulations to manage or discontinue PWC use within park units.

In May 1998 the Bluewater Network filed a petition urging the NPS to initiate a rulemaking process to prohibit PWC use throughout the national park system. In response to the petition, the NPS issued an interim management policy requiring superintendents of parks where PWC use can occur but had not yet occurred to close the unit to such use until the rule was finalized. The Park Service envisioned the servicewide regulation as an opportunity to evaluate impacts from PWC use before authorizing the use. On March 21, 2000, the NPS issued a regulation prohibiting PWC use in most units and required 21 units, including Lake Roosevelt National Recreation Area, to determine the appropriateness of continued PWC use.

In response to the PWC final regulation, Bluewater Network sued the NPS, challenging the National Park Service's decision to allow continued PWC use in 21 units while prohibiting PWC use in other units. In response to the suit, the NPS and the Bluewater Network negotiated a settlement. While 21 units could continue PWC use in the short-term, each of those parks desiring to continue long-term PWC use would promulgate a park-specific special regulation. In addition, the settlement stipulates that the NPS must base its decision to issue a park-specific special regulation to continue PWC use through an environmental analysis conducted in accordance with the National Environmental Policy Act. The NEPA analysis at a minimum, according to the settlement, must evaluate PWC impacts on water quality, air quality, soundscapes, wildlife, wildlife habitat, shoreline vegetation, visitor conflicts, and visitor safety.

On November 6, 2002, PWC use was discontinued at Lake Roosevelt National Recreation Area. Since PWC use was discontinued, the National Park Service identified a preferred alternative that would reinstate PWC use at Lake Roosevelt National Recreation Area as previously managed, but with additional restrictions to mitigate watercraft safety concerns, visitor health and safety, and to enhance overall visitor experience.

The purpose of the EA was to evaluate the effects of authorizing a special regulation to address the use of PWC within the park boundaries. Three alternatives concerning the use of PWC at Lake Roosevelt National Recreation Area were evaluated, which included two alternatives to continue PWC use under certain conditions: alternative A would continue PWC use under a special NPS regulation as previously managed, and alternative B would reinstate PWC use under a special NPS regulation with additional management prescriptions. In addition, a no action alternative was considered that would continue the prohibition of all PWC use on NPS-managed waters of Lake Roosevelt.

The EA was released for public review on April 28, 2003, and a proposed rule was published for comment on February 6, 2004. The park received several comments stating that the preferred alternative identified in the EA did not comply with Lake Roosevelt National Recreation Area's General Management Plan by allowing PWC use upstream of the Hedlund Bridge on the Kettle River. In response

to these comments, the park updated the preferred alternative to disallow PWC use upstream of the Hedlund Bridge on the Kettle River.

PREFERRED ALTERNATIVE

The NPS preferred alternative and the environmentally preferred alternative is alternative B. Under this alternative, a special NPS regulation would be written to reinstate PWC use at Lake Roosevelt National Recreation Area. The following existing restrictions would continue:

- Crescent Bay Lake (motorized watercraft restricted)
- Upper Kettle River, above the Napoleon Bridge (flat wake) (see below for additional restrictions to this river that augment these current restrictions)
- Upper Hawk Creek from the waterfall near the campground through the area known as the “narrows” (flat wake)

PWC use would continue to be allowed on those portions of Lake Roosevelt managed by the Colville Confederated Tribes and Spokane Tribe of Indians. The National Park Service would provide assistance, as needed, in monitoring potential impacts within tribal waters related to the reinstatement of PWC use. Special regulations governing PWC use on Lake Roosevelt would only apply to waters managed by the National Park Service.

Alternative A would satisfy the majority of the six requirements detailed above; however, alternative A would not ensure for safe, healthful, productive, and aesthetically pleasing surroundings by allowing PWC use in areas frequented by non-PWC recreationists. Of the alternatives analyzed, alternative A would not attain the widest range of beneficial uses of the environment while minimizing degradation, risk of health or safety, or other undesirable and unintended consequences because of the potential impacts of PWC use to visitor experiences, natural resources, and other opportunities in the national recreational area. For this reason, alternative A is not preferred from an environmental perspective.

The no-action alternative would ensure a safe, healthful, productive, and aesthetically and culturally pleasing area for visitors to access without the threat of PWC users introducing noise and safety concerns. The no-action alternative would attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences by removing the PWC use from the national recreation area entirely. However, the no-action alternative would not maintain an environment that supports diversity and variety of individual choice, nor would it achieve a balance between population and resource use that permits a wide sharing of amenities.

MITIGATION

The following mitigation measures were included as part of the alternative.

Equipment and Emissions. The Environmental Protection Agency promulgated a rule to control exhaust emissions from new marine engines, including outboard and PWC engines. Emission controls provide for increasingly stricter standards beginning in model year 1999. Under this alternative, it is assumed that over time, PWC two-stroke engines would be converted to cleaner direct-injection or four-stroke engines in accordance with industry compliance with the EPA rule. It is the responsibility of the PWC industry to meet these regulations, not the responsibility of individual owners.

Launch Restrictions. Launch and retrieval of personal watercraft would continue to be permitted only at designated boat launch ramps within Lake Roosevelt National Recreation Area. PWC users would be able to land anywhere along the shoreline, except at designated swim beaches.

Education. Visitor education programs, such as boater safety education, that are designed to promote safe and environmentally friendly practices would continue. The programs would include personal contacts, newspaper articles and formal educational programs.

Operating Restrictions. All state and federal watercraft laws and regulations would continue to be enforced, including regulations that address reckless or negligent operation, excessive speed, hazardous wakes or washes, hours of operation, age of driver and distance between vessels. The state requires all PWC riders to wear a Coast Guard approved personal floatation device and a lanyard cutoff switch, if installed by the manufacturer.

Operators must be at least 14 years old, and it is unlawful to lease, hire, or rent a personal watercraft to any person under 16 years of age. No person shall operate a personal watercraft on the waters of Washington State during the period from sunset until sunrise.

Washington State prohibits reckless behavior, such as that endangers, or is likely to endanger, any person or property. Within 100 feet of marked swimming or boat access areas, vessels shall be operated at the minimum speed necessary to maintain steerageway.

Water patrols and enforcement, in conjunction with cooperating agencies, would continue on an irregular basis during the primary PWC use season (mid-June to Labor Day), with less than a daily occurrence.

In addition to the existing restrictions listed above, the following provisions would further restrict PWC areas of use, launch, and wake speeds. Under alternative B, PWC use would be managed to mitigate impacts to sensitive habitats, cultural resources, watercraft safety concerns, visitor health and safety, and overall visitor experience through the following additional restrictions:

Areas of Use. Alternative B has been modified to prohibit operation of PWC on the Kettle River from the Hedlund Bridge upstream (north) at all times in order to conform with the intent of the park's General Management Plan (NPS 2000c).

Wake Restrictions. In addition to the flat-wake zones described above, operation of personal watercraft would be allowed to occur only at flat-wake speeds in the following locations:

- within 200 feet of launch ramps, marina facilities, campground areas, swim beaches, water skiers, or other persons in the water;
- the stretch of the Spokane Arm from 100 feet west of the Two Rivers Marina on the downstream end, to 100 feet east of the launch ramp on the upstream end, above the vehicle bridge.

Launch Restrictions. In addition to launch restrictions described above, PWC would be prohibited from launching from the Napoleon Bridge on the Kettle River.

Monitoring of PWC effects. The National Park Service has and will continue to seek appropriate levels of funding to support the resource monitoring identified in the EA. This includes working in conjunction with tribes, the state, and counties to establish a monitoring program to determine if and when additional regulations are needed should impacts to natural and/or cultural resources or public safety be detected due to an increase in PWC use. Water quality sampling for watercraft emissions in areas of high PWC use

would be included in the monitoring program. In the future, PWC use could be discontinued in specific areas managed by National Park Service that experience cultural or natural resource degradation or public safety issues as determined through monitoring of such areas.

ADDITIONAL ALTERNATIVES CONSIDERED

As noted above, the EA evaluated two additional alternatives concerning the use of personal watercraft at Lake Roosevelt National Recreation Area:

- *Alternative A* would reinstate PWC use under a special NPS regulation as previously managed.
- *Alternative B* would reinstate PWC use under a special NPS regulation with additional management prescriptions. Alternative B has been modified to prohibit PWC use on the Kettle River north of the Hedlund Bridge to conform with the intent of the park's General Management Plan (NPS 2000c). Alternative B has been identified as the preferred alternative, as described below.
- *No action alternative* would continue the prohibition of PWC use on NPS-managed waters of Lake Roosevelt.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which is guided by the Council on Environmental Quality (CEQ). The CEQ provides direction that "[t]he environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101":

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- assure for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
- enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The environmentally preferred alternative is alternative B. Alternative B would best meet park goals with respect to the protection of visitor experience and safety by implementing flat-wake restrictions in areas of high visitor activity and prohibiting PWC use in areas of sensitive natural and cultural resources. In addition, alternative B was modified from its original description to prohibit PWC use on the Kettle River north of the Hedlund Bridge in order to conform with the intent of the park's General Management Plan (NPS 2000c). Benefits to natural resources under alternative B would result from the implementation of a resource monitoring program. In the long term, this alternative would help visitors enjoy a beneficial use by allowing access to national recreation area amenities by PWC users while accommodating other

recreationists and meeting resource management objectives. This alternative would accommodate recreational opportunities for visitors while protecting sensitive natural resources. The foreseeable impacts of the preferred alternative, combined with mitigation measures designed to minimize adverse consequences, supports the finding of no significant impact. Alternative B is designed to meet the NPS general prohibition on PWC use for the protection of park resources and values while providing recreational opportunities for PWC users.

Based on the analysis prepared for PWC use at Lake Roosevelt National Recreation Area, alternative B is considered the environmentally preferred alternative by best fulfilling park responsibilities as trustee of sensitive habitat; by ensuring safe, healthful, productive, and aesthetically and culturally pleasing surroundings; and by attaining a wider range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As documented in the EA, the NPS has determined that the preferred alternative (alternative B) can be implemented with no significant adverse effects to water quality, air quality, soundscapes, wildlife and wildlife habitat, threatened, endangered, or special concern species, shoreline vegetation, visitor experience, visitor safety, cultural resources, the socioeconomic environment, and national recreation area operations and management. As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse: The settlement between NPS and Bluewater Network requires the NEPA analysis to evaluate PWC impacts to water quality, air quality, soundscapes, wildlife and wildlife habitat, shoreline vegetation, visitor conflicts, and visitor safety. PWC with two-stroke engines discharge a gas-oil mixture, which consists of hydrocarbons and polycyclic aromatic hydrocarbons, into the water, resulting in adverse effects on water quality. Negligible adverse effects to water quality are expected based on ecotoxicological threshold volumes. Adverse water quality impacts from benzo(a)pyrene, benzene, and MTBE based on human health (ingestion of water and fish) benchmarks would be negligible. However, additional PWC use restrictions on the Kettle River would result in localized, long-term, minor, beneficial impacts due to the elimination of pollutant loads. Negligible adverse impacts to human health related to PWC airborne pollutants are expected, as well as minor adverse impacts from CO. The risk from PAH would also be negligible. There would be a negligible increase in NO_x emissions and a decrease in emissions of the other pollutants. Negligible adverse impacts to air quality related values from PWC pollutants are expected.

Short-term, minor to moderate, adverse impacts to soundscapes are expected, although additional flat-wake restrictions and prohibited PWC use on the Kettle River would have beneficial impacts to some park visitors from reduced noise levels. Beneficial impacts would also occur to wildlife due to decreased noise and disturbance from prohibited PWC use on the Kettle River, additional flat-wake zones, and the ability to mitigate future impacts through resource monitoring; overall impacts would be minor to moderate and adverse. Implementation of these restrictions will also result in negligible beneficial impacts to shoreline vegetation. Reinstatement of PWC use at the park would result in a long-term, beneficial impact to PWC users, who would be required to comply with designation of the additional flat-wake zones and prohibited PWC use on the Kettle River. Non-PWC users would experience long-term, negligible to minor, adverse impacts due to reinstatement of PWC use within the national recreation area. Long-term, negligible to minor, adverse impacts to visitor conflicts and safety would also occur due to reinstatement of PWC at the recreation area. All visitors would benefit from additional flat-wake restrictions and PWC use prohibition on the Kettle River.

Degree of effect on public health or safety: Implementation of the preferred alternative would result in primarily negligible to minor effects on public health and safety. The preferred alternative would have negligible adverse impacts to water quality for all human health and ecotoxicological benchmarks analyzed. However, PWC use prohibition on the Kettle River would result in localized, long-term, minor, beneficial impacts due to the elimination of pollutant loads. Impacts to air quality for carbon monoxide and other pollutants of concern would be negligible to minor and adverse. The preferred alternative would maintain existing air quality conditions and would not result in an impairment of air quality. Long-term, negligible to minor, adverse impacts to visitor conflicts and safety would occur due to reinstatement of PWC at the national recreation area. However, as mentioned above, all visitors would benefit from additional flat-wake restrictions and PWC use prohibition on the Kettle River.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, wetlands, wild and scenic rivers, or ecologically critical areas: The preferred alternative will not impact unique characteristics of the area, including park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas, because these resources do not exist in the project area. Designated critical habitat for a threatened species within the park is discussed below.

Degree to which effects on the quality of the human environment are likely to be highly controversial: As discussed earlier, the EA was written under NEPA as a result of a settlement between the NPS and Bluewater Network. The impetus of the lawsuit was the result of studies in Everglades National Park on PWC use. Studies showed that PWC use resulted in damage to vegetation, adversely impacted shorebirds, and disturbed the life cycles of other wildlife.

There were no other highly controversial effects identified during either preparation of the EA or the public comment period.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks: There were no highly uncertain, unique or unknown risks identified during either preparation of the EA or the public comment period.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration: The preferred alternative neither establishes a National Park Service precedent for future actions with significant effects nor represents a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts: Cumulative effects were analyzed in the EA, and no significant cumulative impacts were identified.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources: Although additional flat-wake restrictions and PWC use prohibitions on the Kettle River would reduce wave action in some areas and provide a minor beneficial impact, PWC use could have minor adverse impacts on listed or potentially listed archeological resources from possible illegal collection and vandalism. Prohibited use restrictions on the Kettle River may have negligible beneficial impacts on listed or potentially listed archeological sites, as shoreline access is limited in this area. In unrestricted areas, PWC-induced wave action could also have minor adverse impacts on listed or potentially listed archeological sites from erosion. No historical structures listed on the national register would be affected since they are either located outside the study area in or areas already experiencing heavy visitor use from other sources. In addition, no cultural resources or sites sacred to American Indians

or other significant ethnographic resources would be affected by the preferred alternative. Compliance with Section 106 of the National Historic Preservation Act was completed on April 18, 2003.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat: Consultation under Section 7 of the Endangered Species Act was conducted to determine if any threatened or endangered species exist within Lake Roosevelt National Recreation Area. According to a letter from the U.S. Fish and Wildlife Service dated August 24, 2001, 24 federal and state threatened and endangered species, or species of concern, may exist within the project area. The bald eagle is the only federally listed species to have documented resident populations within the national lakeshore area. PWC use occurs during the summer months when over-wintering eagle populations are not present. Eagle nest sites would be assessed for sufficient buffers and would be protected accordingly. Total numbers of resident eagles were found to be on an upward trend from 1987 to 2000.

Lake Roosevelt is considered potential habitat for bull trout (a federally threatened species), but the regular occurrence of this species within the reservoir is not likely. It is believed that bull trout sampled in the area are from up-river stocks and are not native to the area. However, bull trout, which may inhabit tributaries of the Kettle River, would benefit from additional management strategies defined under alternative B.

Other special status species known to occur within the shoreline area near PWC use include the California bighorn sheep. Individuals are occasionally seen in the Lincoln area of Lake Roosevelt. The ferruginous hawk may occur in the area but is not known to breed there. Peregrines frequent the area during spring and fall migrations when PWC use is low or absent.

Habitat for the black tern is limited to portions of inflow drainages that support wetland vegetation. Some of these areas are not accessible to motorized watercraft. In areas that are accessible, flat-wake restrictions are currently in place to regulate personal watercraft and other boat operations. Prohibition of PWC use on the Kettle River would benefit black terns inhabiting wetlands or marsh environments there. The American white pelican (state endangered) could potentially utilize marshy areas of tributary drainages at Lake Roosevelt, but is not known to breed in the area.

Records exist of occasional occurrence of moose (state candidate) along the shoreline of Lake Roosevelt. Suitable foraging habitat is located in wetland or marsh areas in side drainages not high in PWC use.

Potential habitat for four plant species exists along or near the shoreline of Lake Roosevelt, although none are known to occur in the recreation area. The least bladderly milkvetch and Nuttall's pussytoes could potentially occur in upland areas as close as 100 feet to the Lake Roosevelt shoreline at full pool. The giant hellebore is an orchid species that could potentially occur in wetland areas associated with Lake Roosevelt. This species prefers wetland areas and may exist along the Kettle River; such populations would benefit from PWC use prohibition in this area. Remaining potential habitat for the species is located in areas where PWC use is either non-existent or restricted by flat-wake designations.

None of the PWC use areas is known to be essential or highly used habitat by the remaining listed species, and impacts to these species are not expected to occur. For these reasons and those listed above, implementation of the proposed action may affect, but is not likely to adversely affect, bald eagle, bull trout, California bighorn sheep, American peregrine falcon, American white pelican, black tern, moose, least bladderly milkvetch, Nuttall's pussytoes, or giant hellebore. There would be no effect to all other federal or state listed species.

Whether the action threatens a violation of federal, state, or local environmental protection law: The preferred alternative violates no federal, state, or local environmental protection laws.

IMPAIRMENT OF PARK RESOURCES OR VALUES

In addition to reviewing the list of significance criteria, NPS staff determined that implementation of the preferred alternative would not constitute an impairment of the park's resources and values. This conclusion is based on a thorough analysis of the impacts described in the EA, agency and public comments received, and professional judgement in accordance with the National Park Service's *Management Policies, 2001* (December 27, 2000). As described in the EA, implementation of the preferred alternative will not result in major, adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of Lake Roosevelt National Recreation Area; (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents.

PUBLIC INVOLVEMENT

To initiate the public scoping process the park issued a Notice of Proposed Rulemaking Related to the Use of Personal Watercraft at Lake Roosevelt on June 18, 2001. A press release was issued on June 21, 2001 that generated articles in local papers including the Spokane Spokesman-Review. Articles on the rulemaking were also included in the August 2001 Lake Roosevelt Forum newsletter, which is distributed to over 2,000 people. The park's Summer 2001 newspaper, distributed at all launch ramps and campgrounds, also contained information on the issue. Because of the extensive discussions regarding PWC use that occurred during the development of the GMP, public meetings during the scoping phase of the rulemaking were not scheduled.

From 1998 to 2003, the park received 702 written comments concerning personal watercraft, and the public was invited to comment on the EA for an approximate 30-day comment period that lasted from April 28, 2003 to May 28, 2003. Topics of concern included safety, noise, and environmental effects of PWC use. Of those indicating support of PWC use on the reservoir, many were in favor of quieter, less polluting machines, and implementing some restrictions such as flat-wake zones in sensitive areas. Those indicating opposition to PWC use in the recreation area cited noise, reckless behavior, and pollution as reasons to prohibit the watercraft.

The National Park Service published a notice of the availability and the proposed rule in the Federal Register on February 6, 2004 (69 FR 5799-5810). The public was invited to comment on the rulemaking from February 6, 2004 to April 6, 2004. The National Park Service received approximately 762 total comment letters regarding the proposed regulation. A summary of comments follows:

- The analysis and restrictions should include all motorized watercraft and not be limited to only PWC.
- The proposed rule does not comply with Park's General Management Plan because it allows PWC use upstream of the Hedlund Bridge on the Kettle River.
- The management of PWC by the NPS was inconsistent with the Tri-Party Agreement signed in 1946 by the Bureau of Reclamation, National Park Service and the Bureau of Indian Affairs.
- The analysis failed to adequately address NPS impairment policies and mandates.
- The proposed rule gave the Superintendent of Lake Roosevelt National Recreation Area too much discretion to react contrarily to public preference for PWC use.
- The analysis considered for the proposed rule does not include adequate studies on visitor experience related to PWC use.
- The water quality analysis did not take into account the actual lake level, which is currently well below full pool, when analyzing impacts from PWC use on water quality.

- There was little discussion of cumulative impacts to water quality in the analysis.
- The EA failed to adequately address the impacts to wildlife from PWC use. The analysis did not directly relate the absence of osprey to PWC noise level and that the EA does not address the loss of river otters.
- The park's ability to adequately enforce the new regulations set forth in the proposed rule.
- The socioeconomic impact analysis was not adequate because it fail to consider impacts to other non-PWC businesses if a ban on PWC was to continue.
- The Spokane and Colville Confederated Tribes were not consulted with during the planning process.

The park sent a copy of the environmental assessment to the U.S. Fish and Wildlife Service, and no comments were received indicating that formal consultation as required by Section 7 of the Endangered Species Act was necessary. The park also sent three letters to the Confederated Tribes of the Colville Reservation and the Spokane Tribe of Indians dated December 27, 2000 (PWC use update), June 18, 2001 (notice of proposed PWC rulemaking), and October 28, 2002 (PWC EA pre-scoping letter requesting input about information or issues that should be addressed in the EA). The park received a reply from the Confederated Tribes of the Colville Reservation requesting PWC no wake restrictions when entering hidden coves with campers, no PWC use in the Kettle River above Napoleon Bridge, and a sunset date to allow only four-cycle PWC. All of these requests have been addressed under alternative B, as described above.

Following the release of the EA for public review, the park received numerous comments from the public requesting designation of an area that would be closed to PWC use. Because of its outstanding natural resources, the Kettle River north of the Hedlund was designated closed to PWC use under alternative B.

BASIS FOR DECISION

The preferred alternative does not constitute an action that normally requires preparation of an environmental impact statement (EIS). The preferred alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur range from negligible to moderate in intensity. There are no significant impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

Recommended:

Debbie Bird

Superintendent, Lake Roosevelt National Recreation Area

Date

Approved:

Jonathan B. Jarvis

Director, Pacific West Region

Date

LAKE ROOSEVELT NATIONAL RECREATION AREA

PERSONAL WATERCRAFT USE ENVIRONMENTAL ASSESSMENT

ERRATA

The following changes have been made to the *Personal Watercraft Use Environmental Assessment* for Lake Roosevelt National Recreation Area (April 2003) to modify the preferred alternative and its analysis, to address public comments, and to clarify text. Additions are identified by underlines (except where used as subheadings in tables), and deletions by strikethrough.

SUMMARY

ALTERNATIVES CONSIDERED

Page iv — Change description of alternative B as follows:

- Alternative B would reinstate PWC use under a special NPS regulation with additional management prescriptions. Alternative B has been modified to prohibit PWC use on the Kettle River north of the Hedlund Bridge in order to conform with the intent of the park's General Management Plan (NPS 2000c). (The park has identified alternative B as the preferred alternative.)

Pages vi–x, Table A — Change impacts for alternative A and alternative B (preferred alternative) as follows:

TABLE A: SUMMARY OF THE IMPACT ANALYSIS

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
Water Quality	<p>PWC use impacts: Negligible adverse effects in 2002 and 2012 based on ecotoxicological threshold volumes. Adverse water quality impacts from benzo(a)pyrene, benzene and MTBE based on human health (ingestion of water and fish) benchmarks would be negligible in both 2002 and 2012, based on EPA and state of Washington water quality criteria.</p> <p><u>Cumulative impacts:</u> Impacts from personal watercraft and motorized boats would be negligible, adverse, and long-term for benzo(a)pyrene, benzene and MTBE, and would apply to both NPS- and tribal-managed waters.</p>	<p>PWC use impacts: Same as <u>Similar to</u> alternative A. <u>However, additional PWC use restrictions on the Kettle River would result in localized, long-term, minor, beneficial impacts due to the elimination of pollutant loads.</u></p> <p><u>Cumulative impacts:</u> Same as alternative A.</p>	<p>PWC use impacts: Pollutant loads to NPS-managed waters from personal watercraft would be eliminated.</p> <p><u>Cumulative impacts:</u> PWC contribution to cumulative impacts on NPS-managed waters would be eliminated. Impacts from other watercraft would be negligible, adverse, and long-term. Negligible cumulative impacts to tribal-managed waters would include impacts from PWC use and other watercraft.</p>

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
Air Quality	<p>PWC use impacts: Negligible adverse impacts to human health related to the PWC airborne pollutants HC, PM₁₀ and NO_x, and minor adverse impacts from CO for the year 2002. The risk from PAH would also be negligible. In 2012, there would be a negligible increase in NO_x emissions and a decrease in emissions of the other pollutants, although the impact level for these pollutants would remain the same as in 2002.</p> <p>Cumulative impacts: Negligible for PM₁₀, and moderate for HC and CO in 2002 and 2012. NO_x emissions would be negligible in 2002 and minor in 2012. Although there would be an increase in NO_x emissions in 2012, the greater reduction in HC emissions would result in a beneficial impact to regional ozone concentrations. All impacts would be long term and would apply to both NPS- and tribal-managed waters.</p>	<p>PWC use impacts: Because <u>the number of PWC visits and non-PWC motorized boats would be the same as Alternative A</u>, impacts under alternative B would be the same as alternative A.</p> <p>Cumulative impacts: Because <u>the number of PWC visits and non-PWC motorized boats would be the same as Alternative A</u>, cumulative impacts under alternative B would be the same as alternative A. Same as alternative A.</p>	<p>PWC use impacts: Beneficial impacts on human health for CO, HC, PM₁₀ and NO_x, as well as the risk from PAH for 2002 and 2012 due to the elimination of PWC in the national recreation area.</p> <p>Cumulative impacts: PWC contribution to cumulative impacts would be eliminated. Other cumulative impacts in NPS-managed areas remain the same as in alternative A. PWC use continues to contribute to cumulative impacts in tribal-managed areas.</p>
Air Quality Related Values from PWC Pollutants	<p>PWC use impacts: Negligible adverse impacts in 2002 and 2012 under alternative A.</p> <p>Cumulative impacts: Moderate adverse impacts in 2002 and 2012 to both NPS- and tribal-managed areas.</p>	<p>PWC use impacts: Because <u>the number of PWC visits and non-PWC motorized boats would be the same as Alternative A</u>, impacts under alternative B would be the same as alternative A. Same as alternative A.</p> <p>Cumulative impacts: Because <u>the number of PWC visits and non-PWC motorized boats would be the same as Alternative A</u>, cumulative impacts under alternative B would be the same as alternative A. Same as alternative A.</p>	<p>PWC use impacts: PWC emissions would be eliminated.</p> <p>Cumulative impacts: PWC contribution to cumulative impacts in NPS-managed areas would be eliminated. Other cumulative impacts in NPS-managed areas remain the same as in alternative A. PWC use continues to contribute to cumulative impacts in tribal-managed areas.</p>

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
Soundscapes	<p><u>PWC use impacts:</u> Short-term minor to moderate adverse related to the number of personal watercraft operating as well as the sensitivity of other visitors.</p> <p><u>Cumulative impacts:</u> Adverse noise impacts from personal watercraft and other watercraft, automobiles, aircraft, and lumber operations would be minor to moderate, and would predominate on busy days during the high use season. Impacts would be long-term because of the high volume of annual boating use. Cumulative impacts would be similar for both NPS and tribal-managed areas.</p>	<p><u>PWC use impacts:</u> Additional <u>flat-wake restrictions and prohibited use on the Kettle River</u> would have beneficial impacts to some park visitors within the national recreation area from reduced noise levels. <u>However</u>, impact levels would be the same as alternative A.</p> <p><u>Cumulative impacts:</u> Same as alternative A.</p>	<p><u>PWC use impacts:</u> Noise would be decreased relative to other due to the elimination of PWC use within the national recreation area. There would be occasionally noticeable beneficial effects on the soundscape in some areas. There could be minor adverse effects in the park from increased PWC operation outside park boundaries.</p> <p><u>Cumulative impacts:</u> Long-term, minor to moderate adverse impacts. Contribution to cumulative impacts from PWC use within the national recreation area would be eliminated.</p>
Wildlife and Wildlife Habitat	<p><u>PWC use impacts:</u> Negligible to minor <u>Minor to moderate</u> adverse impacts on fish, waterfowl, and other wildlife. Impacts would be short-term.</p> <p><u>Cumulative impacts:</u> Short-term, minor adverse effects on wildlife and wildlife habitat from visitor activities. Lake operations would have minor to moderate adverse impacts to fish, and minor to moderate adverse impacts to riparian and wetland areas that provide habitat for wildlife. Cumulative impacts to tribal-managed wildlife resources would be similar to those for NPS-managed areas.</p>	<p><u>PWC use impacts:</u> Beneficial impacts to wildlife due to the decreased noise and disturbance from <u>restricted PWC use on the Kettle River, additional flat-wake zones, personal watercraft and</u> and the ability to mitigate future impacts through resource monitoring. <u>However</u>, impact levels would remain as in alternative A.</p> <p><u>Cumulative impacts:</u> Same as alternative A.</p>	<p><u>PWC use impacts:</u> Beneficial impacts due to the elimination of personal watercraft on park-managed waters.</p> <p><u>Cumulative impacts:</u> PWC contribution would be eliminated within the national recreation area. Other cumulative impacts would be similar to alternative A. PWC use would continue to contribute to cumulative impacts in tribal-managed areas.</p>
Threatened and Endangered, and Special Concern Species	<p><u>PWC use impacts:</u> May affect, but unlikely to adversely affect federal or state listed or special concern species.</p> <p><u>Cumulative impacts:</u> Visitor activities and lake operations may affect, but would not likely cause adverse effects to federal or state listed or special concern species.</p>	<p><u>PWC use impacts:</u> Similar to alternative A except <u>additional flat-wake zones, prohibited PWC use on the Kettle River, and resource monitoring</u> would have beneficial impacts.</p> <p><u>Cumulative impacts:</u> Same as alternative A.</p>	<p><u>PWC use impacts:</u> Potential for impacts to special status species within the national recreation area would be eliminated due to continuation of ban of personal watercraft on NPS-managed waters.</p> <p><u>Cumulative impacts:</u> PWC contribution would be eliminated in national recreation area. Other cumulative impacts similar to alternative A. PWC use would continue to contribute to cumulative impacts in tribal-managed areas.</p>

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
Shorelines and Shoreline Vegetation	<p><u>PWC use impacts:</u> Negligible adverse effects.</p> <p><u>Cumulative impacts:</u> Negligible adverse impacts due to visitor activities and minor adverse impacts from wind-caused wave action and lake operations. Cumulative impacts would be similar on both NPS and tribal-managed shorelines.</p>	<p><u>PWC use impacts:</u> Similar to alternative A. Negligible beneficial impacts to sensitive shoreline vegetation within the national recreation area over the short and long term due to <u>additional flat-wake zones, prohibited use on the Kettle River, and</u> future resource monitoring.</p> <p><u>Cumulative impacts:</u> Same as alternative A.</p>	<p><u>PWC use impacts:</u> Beneficial impacts from elimination of PWC use on NPS-managed waters.</p> <p><u>Cumulative impacts:</u> Contribution from PWC use in national recreation area would be eliminated. Other cumulative impacts within the recreation area would be the same as in alternative A PWC use would continue to contribute to cumulative impacts in tribal-managed areas.</p>
Visitor Use and Experience	<p><u>PWC use impacts:</u> Negligible to minor adverse impacts on experiences for most visitors in the short and long-term.</p> <p><u>Cumulative impacts:</u> Negligible to minor short-term adverse impacts on visitor experience goals in both NPS- and tribal-managed areas due to visitor activities. Plans for future expansion or improvements to visitor facilities at within the national recreation area would have long-term beneficial impacts on visitor experience.</p>	<p><u>PWC use impacts:</u> Same as alternative A for non-PWC users. Reinstatement of PWC use at the park would result in a long-term beneficial impact to PWC users, who would be required to comply with designation of the <u>additional flat-wake zones and prohibited PWC use on Kettle Creek. Non-PWC users would experience long-term, negligible to minor</u> adverse impacts due to <u>reinstatement of PWC use</u> within national recreation area. waters would have negligible to minor adverse impacts on most PWC users and beneficial impacts on swimmers, water skiers, and other persons in the water.</p> <p><u>Cumulative impacts:</u> Same as alternative A.</p>	<p><u>PWC use impacts:</u> Beneficial impacts on the experiences of most non-PWC visitors using park-managed waters, and minor to moderate adverse impacts on visitors to tribal-managed waters due to increased crowding. Impacts on all PWC users would be long term, moderate, and adverse.</p> <p><u>Cumulative impacts:</u> Negligible long-term adverse effect on PWC users at nearby water bodies that would potentially receive increased PWC use. Minor to moderate adverse impacts on visitors to tribal managed areas of Lake Roosevelt. Impacts related to non-PWC visitor activities and facility improvement plans would remain the same as alternative A.</p>

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
Visitor Conflicts and Safety	<p>PWC use impacts: Negligible to minor adverse impacts on other boaters in the short and long term, minor to moderate adverse impacts related to conflicts and safety of swimmers, and negligible to minor adverse impacts on other shoreline visitors particularly in the noted high PWC use locations.</p> <p><u>Cumulative impacts:</u> Minor adverse impacts from all user groups in the short and long term, particularly near the high-use areas. Cumulative impacts in other areas of the lake would be negligible. Cumulative impacts to visitors of tribal managed facilities would be similar. Cumulative impacts due to facilities improvements would be beneficial to national recreation area visitors.</p>	<p>PWC use impacts: Short- and long-term beneficial impacts on visitor conflicts and safety of other visitors near the designated swim areas, boat launches and marinas, and campgrounds of Lake Roosevelt National Recreation Area. Long-term, negligible to minor, adverse impacts due to reinstatement of PWC at the recreation area. All visitors would benefit from additional flat-wake restrictions and PWC use prohibition on the Kettle River.</p> <p><u>Cumulative impacts:</u> Same as alternative A.</p>	<p>PWC use impacts: Long-term beneficial impacts on NPS-managed waters. Long-term minor to moderate adverse impacts on tribal-managed waters.</p> <p><u>Cumulative impacts:</u> PWC contribution to cumulative impacts within the national recreation area would be eliminated. Minor to moderate adverse impacts on visitors to tribal managed areas of Lake Roosevelt.</p>
Cultural Resources	<p><u>PWC use impacts:</u> Minor adverse impacts on listed or potentially listed archeological sites from possible illegal collection and vandalism or erosion.</p> <p><u>Cumulative impacts:</u> Minor to major moderate adverse, due to the number of visitors and the potential for illegal collection or destruction. Fluctuations in water levels could have minor to moderate adverse impacts to listed or potentially listed archeological sites from erosion. Cumulative impacts would be similar to archeological resources managed by the tribes. Impacts would occur over the short- and long-term</p>	<p><u>PWC use impacts:</u> Minor beneficial impact from <u>prohibited use on the Kettle River and additional flat-wake zoning</u>, but impact levels would be the same as alternative A.</p> <p><u>Cumulative impacts:</u> Same as alternative A.</p>	<p><u>PWC use impacts:</u> Minor beneficial impacts over the short and long term due to lack of PWC use in NPS-managed waters.</p> <p><u>Cumulative impacts:</u> PWC contribution eliminated on NPS-managed waters. Other cumulative impacts the same as in alternative A. PWC use would continue to contribute to cumulative impacts on tribal managed resources.</p>
Socioeconomic Effects	<p>No change in consumer surplus for PWC users or other visitors. No change in producer surplus to providers of PWC or non-PWC services. No change in welfare to local residents or the general public.</p>	<p>No change in consumer surplus for PWC users. Slight increase in consumer surplus of non PWC visitors. No change in producer surplus of providers of PWC services and slight increase in producer surplus for providers of non-PWC services. No change in welfare to local residents. Slight increase in welfare of the general public.</p>	<p>Decrease in consumer surplus for current and future PWC users. Increases in consumer surplus for non-PWC visitors. Decrease in producer surplus for PWC rental and retail shops. No change in producer surplus for hospitality services. Increase in producer surplus for providers of services to non-PWC park visitors. Increase in welfare to the general public and local residents who do not use PWC. Decrease in welfare to local residents who use PWC.</p>

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
Environmental Justice	There would be no adverse effects related to environmental justice since reinstating PWC use would not disproportionately affect minority or low income populations.	Same as alternative A.	Negligible to minor adverse impact on tribal enforcement costs. Beneficial impacts could result from PWC users' increased spending at tribal facilities. Long-term negligible to minor adverse impact to tribal managed lands and waters. Minor to moderate adverse impacts to marinas on NPS-managed lands that are managed by the tribal entities.
National Recreation Area Management and Operations			
Conflicts with State and Local Regulations	Negligible impacts since no conflicts with state or tribal regulations would occur.	Same as alternative A.	Minor to moderate adverse impacts would occur due to conflict with tribal policies on Lake Roosevelt. No conflict with other state or local regulations or policies.
Impact to Park Operations from Increased Enforcement Needs	Negligible impacts.	Negligible to minor adverse impacts on park operations from increased enforcement efforts needed to implement <u>prohibited use on Kettle River</u> , <u>additional</u> flat-wake zoning, and educational efforts.	Minor to moderate impacts on park operations due to a need for additional enforcement efforts associated with the ban on personal watercraft.

PURPOSE OF AND NEED FOR ACTION

Page 4, “Purpose of and Need for Action,” last paragraph — Change alternative B as follows:

This environmental assessment evaluates three alternatives concerning the use of personal watercraft at Lake Roosevelt. The alternatives include:

Alternative A: Reinstate PWC use under a special NPS regulation as previously managed in accordance with NPS *Management Policies 2001*, park practices, and state regulations.

Alternative B: Reinstate PWC use under a special NPS regulation with additional management prescriptions, such as implementation of additional flat-wake zones, restricted use in specified locations, implementation of additional flat-wake zones and resource monitoring. Alternative B has been modified to prohibit PWC use on the Kettle River north of the Hedlund Bridge to conform with the intent of the park’s General Management Plan (NPS 2000c). Alternative B has been identified as the preferred alternative.

No-Action Alternative: Continue the prohibition of PWC use on NPS-managed waters of Lake Roosevelt.

ALTERNATIVE B: REINSTATE PWC USE UNDER A SPECIAL NPS REGULATION WITH ADDITIONAL MANAGEMENT PRESCRIPTIONS (PREFERRED ALTERNATIVE)

Page 26, “Alternatives” — Change alternative B as follows:

Under alternative B, a special NPS regulation would be written to reinstate PWC use at Lake Roosevelt National Recreation Area. Under this alternative, ~~the following provisions for equipment and emissions; education; and safety-operating restrictions~~ would remain the same as those listed above for alternative A: ~~areas of use/location restrictions; launch restrictions; equipment and emissions; education; and safety-operating restrictions.~~ Additional provisions would restrict PWC areas of use, launch, and wake speeds. ~~In~~ Under alternative B, PWC use would be managed to mitigate impacts to sensitive habitats, cultural resources, watercraft safety concerns, visitor health and safety, and to enhance overall visitor experience through the following additional restrictions:

Areas of Use. Areas of use would be restricted as described under Alternative A. Additionally, Alternative B has been modified to prohibit operation of PWC on the Kettle River from the Hedlund Bridge upstream (north) at all times in order to conform with the intent of the park’s General Management Plan (NPS 2000c).

Wake Restrictions. ~~The current draft of 36 CFR 3 defines “flat wake speed” as a minimal disturbance of the water by a vessel in order to prevent damage or injury. In addition to the flat-wake zones described under Alternative A, operation of personal watercraft would only be allowed to occur only at flat-wake speeds in the following locations:~~

- within 200 feet of launch ramps, marina facilities, campground areas, swim beaches, water skiers, or other persons in the water;

- the stretch of the Spokane Arm from 100 feet west of the Two Rivers Marina on the downstream end, to 100 feet east of the launch ramp on the upstream end, above the vehicle bridge (map 3).

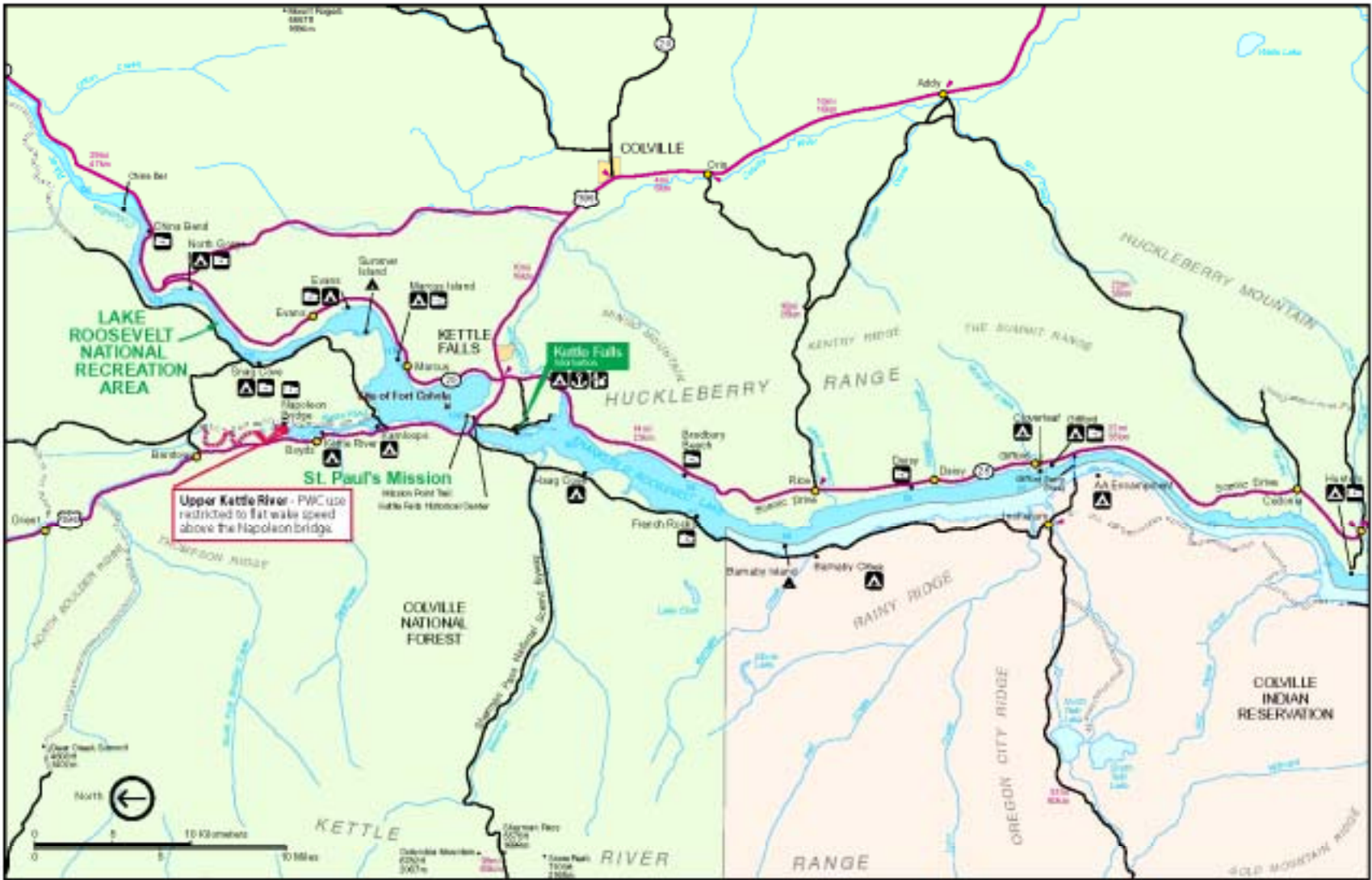
Launch Restrictions. In addition to launch restrictions described in Alternative A, PWC would be prohibited from launching from the Napoleon Bridge on the Kettle River.

THE ENVIRONMENTALLY PREFERRED ALTERNATIVE

Page 28, “Alternatives” — In the “Environmentally Preferred Alternative” section, change the paragraph that describes alternative B as follows:

Alternative B would have impacts on the national recreational area’s natural resources similar to those under alternative A; however, alternative B was modified from its original description to prohibit PWC use on the Kettle River north of the Hedlund Bridge in order to conform with the intent of the park’s General Management Plan (NPS 2000c). Alternative B would better meet park goals with respect to the protection of visitor experience and safety by implementing flat-wake restrictions in areas of high visitor activity and prohibiting PWC use in areas of sensitive natural and cultural resources. Additionally, benefits to natural resources under alternative B would result from the implementation of a resource monitoring program. In the long term, this alternative would help visitors enjoy a beneficial use by allowing access to national recreation area amenities by PWC users while accommodating other recreationists and meeting resource management objectives. This alternative would accommodate recreational opportunities for visitors while protecting sensitive natural resources. Alternative B is designed to meet the NPS general prohibition on PWC use for the protection of park resources and values while providing recreational opportunities for PWC users.

Page 35, Map of alternative B, north portion — Replace the map with the corrected version on the next page.



LAKE ROOSEVELT
NATIONAL
RECREATION AREA

Washington
River Mile: 65 to 130

Alternative B:
Reinstate PWC Use
under a Special
NPS Regulation
with Additional
Management
Prescriptions (Preferred
Alternative)

LEGEND

 National Recreation Area	 Indian Reservation	 River mileage from dam	 Non-motorized craft only	 Ranger station	 Marina	 Public campground
 National Forest	 Tribal water area	 Unpaved road	 Flat wake zone	 Boat launch		 Boat-in campsites

Map Key



Page 41, “Table 3” — Change alternative B, “Areas of Use” and “Launch Restrictions” as follows:

TABLE 3: SUMMARY OF ALTERNATIVES

PWC Management Action	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)
Areas of Use	No motorized watercraft use on Crescent Bay Lake. <u>Alternative B has also been modified to prohibit PWC use on the Kettle River from Hedlund Bridge, north to headwaters, to conform with the intent of the GMP (NPS 2000c).</u> Future limits may be applied if deemed necessary in specific portions of waters managed by the National Park Service.
Launch Restrictions	<u>In addition to restrictions under Alternative A, prohibited use of PWC on the Kettle River would restrict PWC from launching from the Napoleon Bridge launch. Same as alternative A.</u>

Page 43–49, “Table 4” — Change table as follows:

TABLE 4: SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
Water Quality	<p>Alternative A would have negligible adverse effects on water quality based on ecotoxicological threshold volumes due to the reinstatement of PWC use in NPS-managed waters at Lake Roosevelt. Cumulative pollutant loads in 2002 and 2012 from personal watercraft and other motorboats <u>also</u> would be well below ecotoxicological benchmarks and criteria.</p> <p>Adverse water quality impacts from personal watercraft from benzo(a)pyrene, benzene and MTBE based on human health (ingestion of water and fish) benchmarks would be negligible in both 2002 and 2012, based on EPA and state of Washington water quality criteria. Cumulative impacts from personal watercraft and other watercraft would be negligible adverse and long-term for benzo(a)pyrene, benzene and MTBE. Cumulative impacts from personal watercraft and other motorboats to water quality would also be applicable to tribal managed waters.</p> <p>Implementation of alternative A would not result in an impairment of the water quality resource.</p>	<p><u>The adverse impacts to water quality from alternative B would be similar to those under alternative A. However, additional PWC use restrictions on the Kettle River would result in localized, long-term, minor, beneficial impacts due to the elimination of pollutant loads. The adverse impacts to water quality from alternative B would be the same as alternative A. Although additional flat wake restrictions would be implemented in some areas, effects from low throttle operation would not measurably change water quality impacts to NPS-managed waters.</u></p> <p>PWC use under alternative B would have negligible adverse effects on water quality based on ecotoxicological threshold volumes. Cumulative pollutant loads in 2002 and 2012 from personal watercraft and other motorboats would be <u>more than an order of magnitude greater than from personal watercraft alone. However, impacts would be well below ecotoxicological benchmarks and criteria.</u> Adverse water quality impacts from personal watercraft from benzo(a)pyrene, benzene and MTBE based on human health (ingestion of water and fish) benchmarks would be negligible in both 2002 and 2012, based on EPA and state of Washington water quality criteria. Cumulative adverse impacts from personal watercraft and other watercraft would be negligible for benzo(a)pyrene, benzene and MTBE. Cumulative impacts from personal watercraft and other motorboats to water quality would also be applicable to tribal managed waters.</p> <p>Implementation of alternative B would not result in an impairment of the water quality resource at Lake Roosevelt. <u>The restriction of PWC use in some areas (e.g., Spokane Arm and Kettle River) will result in long term beneficial impacts to selected portions of NPS managed waters.</u></p> <p><u>PWC use under alternative B would have negligible adverse effects on water quality based on ecotoxicological threshold</u></p>	<p>PWC use would not be reinstated within NPS-managed waters of Lake Roosevelt, resulting in long-term beneficial impacts due to the elimination of pollutant loads in these waters from personal watercraft. Cumulative impacts from motorboats would be negligible and long term for all ecotoxicological and human health benchmarks, as in other alternatives.</p> <p>The contribution of PWC to cumulative impacts in NPS-managed waters would be <u>reduced eliminated.</u> Cumulative impacts from motorized boats would be negligible and long term for all ecotoxicological and human health benchmarks, as in other alternatives. Continued PWC use on tribal managed waters would contribute to negligible adverse cumulative impacts from watercraft activity to quality of waters under tribal jurisdiction. <u>However, the number of personal watercraft would decrease from an estimated 56 to only 27 on an peak day due to the continued prohibition of PWC use in NPS-controlled waters of Lake Roosevelt.</u></p> <p>Implementation of this alternative would not result in an impairment of the water resource.</p>

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
		<p>volumes. Cumulative pollutant loads in 2002 and 2012 from personal watercraft and other motorboats would be well below ecotoxicological benchmarks and criteria. Adverse water quality impacts from personal watercraft from benzo(a)pyrene, benzene and MTBE based on human health (ingestion of water and fish) benchmarks would be negligible in both 2002 and 2012, based on EPA and state of Washington water quality criteria. Cumulative adverse impacts from personal watercraft and other watercraft would be negligible for benzo(a)pyrene, benzene and MTBE. Cumulative impacts from personal watercraft and other motorboats to water quality would also be applicable to tribal managed waters. Implementation of alternative B would not result in an impairment of the water quality resource at Lake Roosevelt.</p>	
Air Quality			
Impact to Human Health from Airborne Pollutants Related to PWC Use	<p>PWC use in NPS-managed waters would result in negligible adverse impacts to human health related to the airborne pollutants HC, PM₁₀ and NO_x, and minor adverse impacts from CO for the year 2002. The risk from PAH would also be negligible. In 2012, there would be a negligible increase in NO_x emissions and a decrease in emissions of the other pollutants, although the impact level for these pollutants would remain the same as in 2002.</p> <p>Cumulative emission levels from boating use on NPS-managed waters of Lake Roosevelt would be negligible for PM₁₀, and moderate for HC and CO in 2002 and 2012. NO_x emissions would be negligible in 2002 and minor in 2012. CO and NO_x emissions would increase from 2002 to 2012 because of increased boating activity and cleaner engines that have higher CO and NO_x emissions. Although there would be an increase in NO_x emissions in 2012, the greater reduction in HC emissions would result in a beneficial impact to regional ozone concentrations. Therefore, this alternative would maintain or improve existing air quality conditions, with future reductions in PM₁₀ and HC emissions due to improved emission controls. Overall, PWC emissions of HC are estimated to be 10% to 11% of the cumulative boating emissions in 2002 and 2012. Cumulative impacts</p>	<p>Alternative B would result in the same air quality impacts to human health from PWC emissions as alternative A <u>because there would be no change in the total number of non-PWC motorized boat visits</u> the total number of PWC users would be unaffected. Additional management prescriptions would not noticeably affect PWC emissions, <u>as the same number of PWC users are expected to occur in the recreation area</u>. As in alternative A, negligible adverse impacts for HC, PM₁₀ and NO_x, and minor impacts for CO would occur for 2002 and 2012. The risk from PAH would also be negligible in 2002 and 2012.</p> <p>Cumulative adverse impacts from PWC and other boating emissions within the national recreation area would be the same as for alternative A <u>because the total number of PWC users would be unaffected</u> there would be no change in the total number of PWC and other motorized boat visits, and would be moderate for CO and HC, and negligible for PM₁₀ and NO_x in 2002. In 2012, NO_x impact would increase to minor; impacts for the other pollutants would remain at 2002 levels. A</p>	<p>PWC use would not be reinstated within the national recreation area, resulting in long term, beneficial impacts in localized areas due to the elimination of CO, PM₁₀, HC, and NO_x emissions from personal watercraft.</p> <p>PWC contribution to cumulative air quality impacts on NPS-managed waters would also be eliminated. Cumulative impacts to human health from the remaining motorized boats operating in NPS waters would be negligible for PM₁₀ and NO_x and moderate for CO and HC in 2002. In 2012, impacts would be the same except for an increase in the impact of NO_x to minor levels due to cleaner engines and increased boating activity. These cumulative emissions would be reduced relative to other alternatives due to the elimination of PWC within the national recreation area, although some of this use would be displaced to tribal waters. Cumulative impacts to tribal managed areas would continue to include impacts from PWC use. Cumulative impacts from other motorized boats would be the same in tribal managed areas as in areas under NPS jurisdiction. All impacts would be long term. Implementation of this alternative</p>

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
	<p>from watercraft emissions would also be applicable to adjacent areas under tribal jurisdiction. All impacts would be long term.</p> <p>Implementation of this alternative would not result in an impairment of air quality.</p>	<p>beneficial impact to regional ozone emissions would occur due to a reduction in HC emissions. This alternative would <u>not interfere with</u>, maintain, or improve existing human health air quality conditions, with future reductions in PM₁₀ and HC emissions due to improved emission controls. The PWC contribution to emissions of HC is estimated to be 10% to 11% of the cumulative boating emissions in 2002 and 2012. Cumulative impacts from watercraft emissions would also be applicable to adjacent areas under tribal jurisdiction. All impacts would be long term.</p> <p>Implementation of this alternative would not result in an impairment of air quality.</p>	<p>would not result in an impairment of air quality.</p>
Air Quality Related Values from PWC Pollutants	<p>Negligible long-term adverse impacts to air quality related values would occur from personal watercraft operating on NPS-managed waters in 2002 and 2012. This conclusion is based on pollutant emissions of less than 50 tons per year, no observed visibility impacts or ozone-related plant injury, and low regional SUM06 values. Cumulative emissions from motorized boats and personal watercraft in both 2002 and 2012 would result in moderate adverse impacts to air quality related values. Although HC emissions would exceed 100 tons per year in 2002 and 2012, and NO_x emissions would exceed 50 tons per year in 2012, these emissions are representative of historic values and have not contributed to elevated SUM06 levels or observed visibility impacts or ozone-related plant injury. There would be beneficial effects to ozone levels in 2012 resulting from the expected reduction in HC emissions from new engine technology. Cumulative impacts would also be applicable to tribal managed areas.</p> <p>Implementation of this alternative would not result in an impairment of air quality related values.</p>	<p>The impacts of alternative B would be the same as alternative A because the total number of PWC users would be unaffected <u>because there would be no change in the total number of PWC and other motorized boat visits</u>. Alternative B would have long-term negligible adverse impacts to air quality related values from personal watercraft and moderate adverse impacts from cumulative emissions from motorized boats and personal watercraft in both 2002 and 2012. This conclusion is based on calculated levels of pollutant emissions. There are no observed visibility impacts or ozone-related plant injury in the recreation area. Cumulative impacts would also be applicable to tribal managed areas.</p> <p>Implementation of this alternative would not result in an impairment of air quality related values.</p>	<p>Emissions from PWC use within the national recreation area and their contribution to impacts on air quality related values would be eliminated. Cumulative adverse impacts to air quality related values from other motorized boat use would be moderate and long-term and would apply to both NPS- and tribal-managed areas. Continued PWC use on tribal managed waters would also contribute negligible impacts to overall cumulative impacts for both NPS- and tribal-managed areas. This conclusion is based on regional SUM06 values, the lack of existing or anticipated local ozone or visibility effects, and the calculated pollutant emission levels.</p>
Soundscapes	<p>Noise from personal watercraft would have short-term minor to moderate adverse impacts at most locations at Lake Roosevelt National Recreation Area and the immediate surrounding area. Impacts would be related to the number of personal watercraft operating as well as the sensitivity of other visitors, and would be highest</p>	<p>Noise from personal watercraft would have minor to moderate adverse impacts at most locations at Lake Roosevelt National Recreation Area and the immediate surrounding area. Impact levels would relate to the number of personal watercraft operating as well as the</p>	<p>Noise experienced at the national recreation area would be decreased in comparison to alternatives A and B due to the elimination of PWC use in NPS-managed waters. There would be occasionally noticeable beneficial effects on the soundscape of the areas of the park where personal</p>

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
	<p>during summer weekends and holiday periods during periods of peak use. Cumulative adverse noise impacts from personal watercraft and other watercraft, automobiles, aircraft, and lumber operations would be minor to moderate, and would predominate on busy days during the high use season. Impacts would be long-term because of the high volume of annual boating use. Cumulative impacts to the soundscape at adjacent tribal managed visitor use areas would be similar to impacts in NPS-managed areas. Non-watercraft visitor use would have a negligible adverse impact on the soundscape at Lake Roosevelt. Implementation of this alternative would not result in an impairment of the park's soundscape.</p>	<p>sensitivity of other visitors. <u>Additional</u> flat-wake restrictions <u>and prohibited use areas</u> would have beneficial impacts to some park visitors from reduced noise levels. Cumulative adverse noise impacts from personal watercraft and other watercraft, automobiles on SR 25, aircraft, lumber operations, and other visitor activities would be minor to moderate because these sounds would be heard occasionally throughout the day, and may predominate on busy days during the high use season. Cumulative impacts to the soundscape at adjacent tribal managed visitor use areas would be similar to impacts in NPS-managed areas. Implementation of this alternative would not result in an impairment of the park's soundscape.</p>	<p>watercraft have traditionally operated. Cumulative noise impacts including those from motorized boats and other visitor activities as well as personal watercraft on adjacent tribal managed waters would have a long-term, minor to moderate adverse impact on the soundscape of the park. Cumulative impacts on the tribal soundscape would be similar, but with a continued contribution from PWC use on tribal managed waters. Implementation of this alternative would not result in an impairment of the park's soundscape.</p>
Wildlife and Wildlife Habitats	<p>PWC use within NPS-managed areas at Lake Roosevelt would have negligible to minor <u>negligible to moderate</u> adverse impacts on fish, waterfowl, and other wildlife. Due to low levels of PWC use in the recreation area, coupled with a lack of prime habitat areas at the shoreline, any impacts to fish, wildlife and respective habitats would be temporary and short term. The intensity and duration of impacts is not expected to increase substantially over the next 10 years, since PWC numbers would not increase substantially and engine technology would continue to improve under EPA industry regulations. Cumulative impacts from motorized boating and other visitor activities would have short-term, minor adverse effects on wildlife and wildlife habitat. <u>Wildlife habitat would also be potentially affected when lake fluctuations affect water levels in tributary drainages that support wetland and riparian vegetation. Lake operations also contribute to cumulative impacts through fluctuations in water level and potentially would cause minor to moderate adverse impacts to fish, and beneficial or adverse impacts to riparian and wetland areas that provide habitat for wildlife.</u> Cumulative impacts to tribal managed wildlife resources would be similar to those described above for NPS-managed areas. Implementation of this alternative would not result in impairment to wildlife or</p>	<p>The reinstatement of PWC use with <u>additional</u> flat-wake restrictions, <u>prohibited use on the Kettle River</u>, and the establishment of a resource monitoring program would have beneficial impacts to wildlife species inhabiting the Lake Roosevelt recreation area, due to the through decreased noise and disturbance from personal watercraft and the ability to mitigate future impacts. Despite these benefits, impacts to wildlife and wildlife habitat would be adverse negligible to minor to moderate in 2002 and 2012, similar to alternative A. All wildlife impacts from personal watercraft would be temporary and short term. When combined with the minor to moderate, adverse impacts described under alternative B, cumulative impacts would be adverse, long-term, and minor to moderate. Cumulative adverse impacts from motorized boats and other visitor activities would be negligible to minor <u>negligible to moderate</u> as under alternative A. Lake operations would also contribute to cumulative adverse impacts through minor to moderate levels of long-term habitat disturbance. Cumulative impacts to tribal managed wildlife resources would be similar to those described above for NPS-</p>	<p>PWC use would not be reinstated in NPS-managed waters on Lake Roosevelt, resulting in beneficial impacts on wildlife and wildlife habitat due to the elimination of interactions between PWC users and wildlife within the national recreation area. Cumulative adverse impacts on wildlife and wildlife habitat in the national recreation area would be short-term negligible to minor due to other visitor activities and minor to moderate from lake operations. PWC use would continue to contribute to cumulative adverse impacts on tribal managed wildlife and habitat resources because PWC use would continue on tribal managed waters of Lake Roosevelt. Implementation of this alternative would not result in impairment to wildlife or wildlife habitat.</p>

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
	wildlife habitat.	managed areas. Implementation of this alternative would not result in impairment to wildlife or wildlife habitat.	
Threatened, Endangered, or Special Concern Species	<p>PWC use at Lake Roosevelt may affect, but is not likely to adversely affect the following species with federal or state status: bald eagle, bull trout, California bighorn sheep, American peregrine falcon, American white pelican, black tern, moose, least bladdery milkvetch, Nuttall's pussytoes, or giant helleborine. There would be no effect to all other federal or state listed species including the Canada lynx, gray wolf, grizzly bear, woodland caribou, Ute ladies'-tresses, or Columbia crazyweed. The identified special status species are either not permanent residents who are present during times of PWC use, do not have preferred habitat in the areas used by personal watercraft, are not usually accessible, or are generally acclimated to human activity. Similarly, cumulative effects from all park visitor activities within the national recreation area and lake operations may affect, but would not likely cause adverse effects to special status species due to lack of species occurrences and access to their habitats.</p> <p>Implementation of this alternative would not result in an impairment of threatened or endangered species.</p>	<p>Reinstatement of PWC use within the national recreation area with additional management strategies may affect, but is not likely to adversely affect, any of the listed wildlife or plant species. The potential for effects <u>adverse impacts</u> is less than under alternative A due to <u>additional flat-wake restrictions, prohibited PWC use on the Kettle River, and the</u> establishment of a resource monitoring program. While some disturbance to <u>special status species</u> could occur from PWC use, other visitor activities on the lake and shoreline, and/or lake operations, these cumulative impacts would not be of sufficient duration or intensity to cause adverse impacts. No <u>Reduced</u> impacts would occur in designated areas where personal watercraft would be prohibited or where additional speed or flat-wake restrictions would be enforced. <u>Under alternative B, cumulative impacts to special status species would be similar to alternative A and may affect, but would not likely adversely affect special status species or their habitat within the national recreation area. Prohibited PWC use on the Kettle River would provide long-term benefits to special status species.</u></p> <p>Implementation of this alternative would not result in an impairment of threatened or endangered species.</p>	<p>PWC users would not be allowed to operate in NPS-managed waters on Lake Roosevelt, resulting in elimination of potential effects to special status species and habitat from PWC use within the national recreation area. PWC use would continue on portions of Lake Roosevelt not managed by the National Park Service, and may affect, but is not likely to affect, any of the listed wildlife or plant species. Any impacts from personal watercraft would be short term. Cumulative effects from lake operations and non-PWC watercraft use and other visitor activities would be similar to other alternatives, and may affect, but are not likely to adversely affect special status species.</p> <p>Implementation of this alternative would not result in an impairment of threatened or endangered species.</p>
Shoreline Vegetation	<p>PWC use would result in negligible adverse effects on shoreline vegetation because shoreline vegetation is generally lacking. Sensitive wetland and riparian areas are located in inaccessible or protected areas with regulated PWC access. Watercraft activity could cause negligible adverse impacts to shorelines through watercraft-induced wave action or visitor access. Wind-caused wave action and lake level fluctuation could cause negligible impacts through erosion to the shoreline of the open areas of the reservoir. Lake level fluctuations could also potentially have minor adverse impacts to sensitive vegetation in side</p>	<p>Impacts to shoreline vegetation would be the same as <u>similar to</u> alternative A, although some benefit could result from <u>additional flat-wake zones, prohibited use on the Kettle River, and as well as</u> resource monitoring if sensitive vegetation communities become established. Cumulative adverse impacts from motorized boats and other watercraft, other visitor activities, and wind-caused wave action would remain negligible, while impacts from lake level fluctuations would be negligible to minor. Cumulative impacts to tribal</p>	<p>PWC use would not be reinstated within the recreation area, resulting in the elimination of personal watercraft from NPS-managed waters and some beneficial impacts to shoreline vegetation similar to alternative B. Cumulative impacts from watercraft activity, other visitor uses and physical processes would continue, and would be negligible to minor, although the long-term PWC contribution to these impacts would be eliminated along NPS shorelines. The above cumulative impacts would also be applicable to tribal managed shorelines. In addition,</p>

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
	drainages. Cumulative impacts to tribal managed shorelines at Lake Roosevelt from motorized boating and PWC use would be similar to impacts on NPS-managed areas. Implementation of this alternative would not result in an impairment of shoreline vegetation.	managed shorelines at Lake Roosevelt from motorized boating and PWC use would be similar to impacts on NPS-managed areas. Implementation of this alternative would not result in an impairment of shoreline vegetation.	PWC use would continue to contribute to cumulative impacts to tribal managed shorelines. Implementation of this alternative would not result in an impairment of shoreline vegetation.

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
Visitor Use and Experience	<p>Reinstated PWC use at Lake Roosevelt National Recreation Area would cause negligible to minor adverse impacts on experiences for most visitors to the national recreation area in the short and long-term. Swimmers and other shoreline users would be most affected by PWC use at popular day-use areas used by personal watercraft, such as Crescent Bay, Spring Canyon, Porcupine Bay, Fort Spokane, and Bradbury Beach. PWC use would have negligible to minor adverse impacts on other boaters due to increased congestion at popular boat launches. PWC use would have long-term, negligible to minor adverse impacts on swimmers and those visitors desiring natural quiet. Cumulative effects of PWC use, other watercraft, and other visitors would result in short- and long-term, negligible to minor adverse impacts on visitor experience goals. Plans for future expansion or improvements to visitor facilities within the national recreation area would have long-term beneficial impacts on visitor experience. These cumulative impacts would also be applicable to adjacent tribal managed visitor use areas.</p>	<p>Designation of the flat-wake zones and prohibited use on the Kettle River would have negligible to minor adverse impacts on most PWC users within the national recreation area since these areas would either not be accessible or would not be available for high-speed maneuvering. However, PWC use was low on the Kettle River prior to the November 2002 ban; therefore, the restricted PWC use under Alternative B would cause negligible adverse impacts to PWC users. In addition, the majority of the lake surface would still be accessible to PWC users, resulting in long-term beneficial impacts to those users. Other boaters and shoreline users would experience long-term, negligible to minor beneficial impacts, especially at launch areas and high-use facilities. Swimmers, water skiers, and other persons in the water would also experience long-term, negligible to minor, beneficial impacts.</p> <p>Designation of the flat-wake zones would have negligible to minor adverse impacts on most PWC users within the national recreation area since these areas would not be available for high-speed maneuvering; however, all of the lake surface would still be accessible to PWC users. Other boaters and shoreline users would experience beneficial impacts, especially at launch areas and high-use facilities. Swimmers, water skiers, and other persons in the water would experience beneficial impacts on their experience.</p> <p>Cumulative effects of PWC use, other motorized boats, and other visitors would result in long-term, negligible to minor adverse impacts, while plans to improve or expand facilities would have long-term beneficial impacts on visitor experience within the national recreation area. Cumulative impacts from PWC use, motorized boats, and other visitors would also be applicable to adjacent tribal managed visitor use areas.</p>	<p>The continued ban of personal watercraft on NPS-managed waters would have a beneficial impact on the experiences of most non-PWC visitors to the national recreation area, and minor to moderate adverse impacts on visitors to tribal-managed launch facilities due to increased crowding. Impacts on all PWC users would be long term, moderate, and adverse. Cumulative impacts would include a negligible long-term adverse effect on PWC users at nearby water bodies that would potentially receive increased PWC use. Plans for future facilities improvements would result in long-term beneficial impacts on visitor experience.</p>

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
Visitor Conflicts and Safety	<p>Reinstated PWC use within the national recreation area would have negligible to minor adverse impacts on other boaters in the short and long term. Under this alternative, PWC use would have minor to moderate adverse impacts related to conflicts and safety of swimmers, and negligible to minor adverse impacts on other shoreline visitors particularly in the noted high PWC use locations.</p> <p>Cumulative impacts related to visitor conflicts and safety would be minor adverse for all user groups in the short and long term, particularly near the high-use areas. Cumulative impacts in other areas of the lake would be negligible. Cumulative impacts from all visitor user groups to visitors of tribal managed facilities and waters would be similar to those for NPS visitors. Cumulative impacts due to facilities improvements would be beneficial to all visitors within the national recreation area.</p> <p>Overall, most visitors to Lake Roosevelt National Recreation Area would experience minor adverse effects under this alternative.</p>	<p>Reinstated PWC use with <u>additional PWC management prescriptions</u> would have <u>short- and long-term negligible to minor adverse impacts on visitor conflicts and safety near the designated swim areas, boat launches and marinas, and campgrounds, as well as on other visitors to Lake Roosevelt National Recreation Area.</u> <u>Cumulative impacts to visitor conflict and safety in tribal managed areas would be the same as in alternative A, as management prescriptions under alternative B would not affect tribal managed areas.</u> <u>Cumulative impacts related to visitor conflicts and safety would be negligible to minor adverse for all NPS user groups in the short and long term, particularly near the high use areas.</u> <u>Reinstated PWC use with additional PWC management prescriptions would have short- and long-term beneficial impacts on visitor conflicts and safety near the designated swim areas, boat launches and marinas, and campgrounds and a beneficial impact on other visitors to Lake Roosevelt National Recreation Area.</u> <u>Cumulative impacts to visitor conflict and safety in tribal managed areas would be the same as in alternative A, as management prescriptions under alternative B would not affect tribal managed areas.</u> <u>Cumulative impacts related to visitor conflicts and safety would be negligible to minor adverse for all NPS user groups in the short and long term, particularly near the high use areas.</u></p>	<p>Personal watercraft would not be reinstated on NPS-managed waters of Lake Roosevelt. Short- and long-term beneficial impacts would result by eliminating visitor conflicts with PWC use and enhancing safety on NPS-managed waters. Long-term minor to moderate adverse impacts on tribal-managed waters would also occur, due to the expected increase of PWC use on these waters. Cumulative impacts of the various user groups on visitor conflict and safety would be negligible to minor adverse.</p>
Cultural Resources	<p>PWC use within the national recreational area could have minor adverse impacts on listed or potentially listed archeological sites from possible illegal collection and vandalism or from erosion due to PWC-induced wave action. Cumulative impacts from other visitor use on archeological resources that are readily accessible could be minor to major <u>moderate</u> adverse, due to the number of visitors and the potential for illegal collection or destruction. Lake fluctuations would also potentially cause minor to moderate impacts through erosion. Archeological</p>	<p>Although <u>additional</u> flat-wake <u>restrictions and use prohibitions on the Kettle River use restrictions within the national recreation area</u> would reduce wave action in some areas and provide a minor beneficial impact, PWC use could have minor adverse impacts on listed or potentially listed archeological resources from possible illegal collection and vandalism, similar to alternative A. <u>Prohibited use restrictions on the Kettle River may have negligible beneficial impacts on listed or potentially</u></p>	<p>Prohibiting PWC use would result in minor beneficial impacts over the short and long term on archeological sites within the national recreation area. Cumulative impacts from all other visitor activities would continue to be minor to major <u>moderate</u>, depending on the accessibility of the resource and the potential for illegal collection or damage. Lake fluctuations would also continue to cause minor to moderate impacts through erosion. Tribal archeological resources would continue to experience minor to</p>

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
	resources in areas managed by the Colville Confederated Tribes and Spokane Tribe of Indians would be similarly affected and could experience minor to moderate adverse impacts as a result of PWC and other visitor use. All impacts would occur over the short and long term. Implementation of this alternative would not result in an impairment of cultural resources.	<u>listed archeological sites as shoreline access is limited in this area.</u> In unrestricted areas, PWC-induced wave action could also have minor adverse impacts on listed or potentially listed archeological sites from erosion. <u>All impact levels would continue at existing levels, with lower impacts in areas with flat-wake restrictions or restricted use.</u> Cumulative impacts from visitor activities on archeological resources that are readily accessible could be minor to major -moderate and adverse, due to the number of visitors and the potential for illegal collection or destruction. Lake fluctuations would also potentially cause minor to moderate impacts through erosion. Continuing PWC use under a special regulation is not expected to negatively affect the overall condition of cultural resources due to <u>prohibited use areas and</u> resource monitoring that would be conducted. Archeological resources in areas managed by the Colville Confederated Tribes and Spokane Tribe of Indians could experience minor to moderate adverse impacts as a result of PWC and other visitor use. All impacts would occur over the short and long term. Implementation of this alternative would not result in an impairment of cultural resources.	moderate cumulative effects from PWC and other visitor use. All impacts would occur over the short and long term.
Socioeconomic Effects	No change in consumer surplus for PWC users or other visitors. No change in producer surplus to providers of PWC or non-PWC services. No change in welfare to local residents or the general public.	<u>Prohibited PWC use on the Kettle River would have negligible to no impact on overall PWC users in the recreation area.</u> No change in consumer surplus for PWC users. Slight increase in consumer surplus of non PWC visitors. No change in producer surplus of providers of PWC services and slight increase in producer surplus for providers of non-PWC services. No change in welfare to local residents. Slight increase in welfare of the general public.	Decrease in consumer surplus for current and future PWC users. Increases in consumer surplus for non-PWC visitors. Decrease in producer surplus for PWC rental and retail shops. No change in producer surplus for hospitality services. Increase in producer surplus for providers of services to non-PWC park visitors. Increase in welfare to the general public and local residents who do not use PWC. Decrease in welfare to local residents who use PWC.
Environmental Justice	There would be no adverse effects related to environmental justice since reinstating PWC use within the national recreation area would not disproportionately affect minority or low income populations. Recreational use facilities managed by the Indian	Impacts related to environmental justice, both adverse and beneficial, would be the same as for alternative A and there would be no adverse effects related to environmental justice since reinstating PWC use	Under the continued prohibition of PWC use on NPS-managed waters, PWC use would be displaced onto the tribal side of the lake, potentially resulting in negligible to minor adverse impacts on tribal enforcement

Impact Topic	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
	Tribes would continue to be available to PWC users, providing long-term beneficial impacts to tribal managed facilities on both NPS and tribal lands from the reinstatement of PWC use. Reduced conflicts with other watercraft would result from the dispersion of PWC use from tribal waters to other areas of the lake, resulting in a long-term beneficial impact.	within the national recreation area would not disproportionately affect minority or low income populations. Recreational use facilities managed by the Indian Tribes would continue to be available to PWC users, providing long-term beneficial impacts to tribal managed facilities on both NPS and tribal lands from the reinstatement of PWC use. Reduced conflicts with other watercraft would result from the dispersion of PWC use from tribal waters to other areas of the lake, resulting in a long-term beneficial impact.	costs. Minor beneficial impacts could result from PWC users' increased spending at the Two Rivers Marina. Displacement of PWC use could also increase disturbances to naturally and culturally sensitive areas, resulting in a long-term negligible to minor adverse impact to tribal managed lands and waters. Minor to moderate adverse impacts could also affect the marinas on NPS-managed lands that are managed by the Confederated Tribes of the Colville Reservation.
National Recreation Area Management and Operations			
Conflicts with State and Local Regulations	Under this alternative, management of PWC regulations within the national recreation area would include NPS and state regulations. Waters adjacent to the recreation area are under the jurisdiction of the Confederated Tribes of the Colville Reservation and the Spokane Tribe of Indians. Reinstated PWC use under alternative A would be managed as it was prior to the ban in November of 2002 and would not result in conflicts with state or tribal regulations. Therefore, adverse impacts (including cumulative impacts) would be negligible.	PWC management prescriptions under alternative B would apply only within the recreation area's NPS jurisdictional boundary and would differ from tribal regulations in adjacent waters. These conflicts with tribal PWC regulations would potentially cause negligible to minor adverse impacts, mainly to PWC users and enforcement staff on Lake Roosevelt. There would be no conflict with other federal, state, or local PWC regulations or policies, and adverse impacts would be negligible.	Continuing the ban on PWC use within NPS-managed waters of Lake Roosevelt would not result in conflict with state or local PWC regulations or policies at surrounding water bodies where PWC use occurs. Therefore, adverse impacts related to such conflicts (including cumulative impacts) would be negligible. However, minor to moderate adverse impacts would occur due to conflict with tribal policies on Lake Roosevelt. PWC use would continue to be allowed on tribal waters while a ban would be enforced on adjacent NPS-managed waters and facilities.
Impact to Park Operations from Increased Enforcement Needs	This alternative would have negligible adverse impacts on park operations and enforcement would continue at current levels.	Alternative B would have negligible to minor adverse impacts on park operations. Staffing would continue at current levels, though increased enforcement efforts would be required to implement <u>additional flat-wake zoning and prohibited PWC use on the Kettle River</u> . Additional educational efforts would also be required to inform PWC users of new regulations.	This alternative would have minor to moderate adverse impacts on park operations. No additional staff, funding, or equipment beyond what has been requested would be secured to ensure compliance with the PWC ban and to regulate existing boating use. Staff would initially need to spend more time and effort educating visitors until they became fully aware of the PWC ban. Under the no-action alternative, it would be likely that some PWC users would operate illegally within the recreation area.

Page 50–54, “Table 4” — Change alternative B in the table as follows:

TABLE 5: ANALYSIS OF HOW ALTERNATIVES MEET OBJECTIVES

Issue	Objective	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS- Managed Waters of Lake Roosevelt
Soundscapes				
Noise limits established by the National Park Service require vessels to operate at less than 82 dB at 82 feet. Personal watercraft may be more disturbing than other motorized vessels because of rapid changes in acceleration and direction of noise.	Manage noise from PWC use in affected areas so that visitors' health, safety, and visitor experiences are not adversely affected.	Does not fully meet objective in areas where other recreationists may be sensitive to noise from PWC.	Meets objective due to the 200 foot flat-wake zoning around areas where visitors are concentrated <u>and prohibited use along the Kettle River.</u>	Fully meets objective.
Wildlife and Wildlife Habitat				
Some research suggests that personal watercraft have a greater impact on waterfowl and nesting birds because of their noise, speed, and ability to access shallow-water areas more readily than other types of watercraft. This may force nesting birds to abandon eggs during crucial embryo development stages and flush other waterfowl from habitat, causing stress and associated behavior changes. Collisions with waterfowl and wildlife may also be of concern.	Protect birds and waterfowl from the effects of PWC-generated noise, especially during nesting seasons.	Meets objective as sensitive areas are protected by flat-wake zoning.	Meets objective as sensitive areas are protected by <u>additional flat-wake zoning and/or prohibited use.</u> Enhanced monitoring would assist in recognizing the need for implementation of future restrictions.	Fully meets objective.
Some research suggests that personal watercraft impact wildlife through interruption of normal activities, alarm or flight; avoidance and displacement of habitat; and effects on reproductive success. This is thought to be caused by a combination of PWC speed, noise, and ability to access sensitive areas, especially in shallow-water depths. Literature suggests that personal watercraft can access sensitive shorelines, disrupting riparian habitat areas critical to wildlife.	Protect fish and wildlife species (including threatened or endangered species) and their habitats from unnecessary disturbances by personal watercraft.	Does not fully meet objective, potential for disturbance exists in some areas.	Meets objective as <u>sensitive areas are protected by flat-wake zoning and prohibited use, as well as</u> expanded monitoring of resources would assist in recognizing the need for implementation of future restrictions.	Fully meets objective.

Issue	Objective	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS- Managed Waters of Lake Roosevelt
Threatened and Endangered Species				
Similar to wildlife, personal watercraft may affect federal listed or other species of concern through interruption of normal activities; alarm or flight; avoidance and displacement of habitat; and effects on reproductive success. At Lake Roosevelt, bald eagle and peregrine falcon are special status species that could potentially be impacted by personal watercraft.	Protect threatened and endangered species, and species of special concern, and their habitats from PWC disturbances.	Meets objective because threatened and endangered species primarily occur during off-season for PWC use and potential impact is minimal.	<u>Meets objective because majority of PWC use would not coincide with nesting/breeding season of threatened and endangered species inhabiting the recreation area.</u> Meets objective because threatened and endangered species primarily occur during off-season for PWC use and potential impact is minimal. In addition, monitoring of resources would assist in recognizing the need for implementation of future restrictions.	Fully meets objective.
Shoreline Vegetation				
Personal watercraft are often able to access shoreline or shallow water areas where most other watercraft cannot go. This may lead to disturbance of vegetation resources, including sensitive plant species. In addition, personal watercraft may land on the shoreline allowing visitors to access inland areas where sensitive vegetation and plants species may also exist.	Manage PWC use to protect sensitive shoreline areas (vegetation/erosion) from PWC activity and access.	Meets objective due to a lack of sensitive shoreline vegetation in areas of PWC use.	Meets objective as in alternative A. <u>In addition, closure of Kettle River north of Hedlund Bridge would provide protection for wetlands there.</u>	Fully meets objective.
Visitor Experience				
Some research suggests that personal watercraft are viewed by some segments of the public as a 'nuisance' due to their noise, speed, and overall environmental effects while others believe personal watercraft are no different from other watercraft and have a 'right' to enjoy the sport.	Manage the potential conflicts between PWC use and park visitors in order to minimize adverse effects to visitor experience.	Does not fully meet objective. Some conflict exists between PWC operators and other park visitors at Lake Roosevelt.	Meets objective with flat-wake restrictions and <u>prohibited use on Kettle River</u> to minimize conflicts between personal watercraft and other lake users.	Does not meet objective. Would lower the satisfaction of PWC owners.
Visitor Conflicts and Safety				
The National Transportation Safety Board reported that in 1996 personal watercraft represented 7.5% of state-registered recreational boats but accounted for 36% of	Minimize or reduce the potential for PWC user accidents.	Meets objective with voluntary education programs including boater safety education.	Meets objective as in alternative A. <u>Prohibited PWC use on the Kettle River would reduce conflicts and</u>	Fully meets objective.

Issue	Objective	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS- Managed Waters of Lake Roosevelt
recreational boating accidents. In the same year PWC operators accounted for more than 41% of people injured in boating accidents. PWC operators accounted for approximately 85% of the persons injured in accidents studied in 1997 (NTSB 1998). In part, this is believed to be a "boater education" issue, i.e., inexperienced riders lose control of the craft; but also it is a function of the PWC operation, i.e., no brakes or clutch. When drivers let up on the throttle to avoid a collision, manual steering becomes difficult.			<u>accidents in that area.</u>	
Due to their ability to reach speeds in the 60 mph range and their ability to access shallow-draft areas, Personal watercraft can create wakes that pose a conflict for both shore and boat fishermen and a safety hazard to other users such as canoeists, kayakers and windsurfers. At Lake Roosevelt National Recreation Area, some complaints by fisherman, canoeists or swimmers are received concerning wakes created by personal watercraft. Some complaints are also received concerning the speed of personal watercraft, as well as the speed and noise of "cigarette" boats.	Minimize or reduce potential safety issues or conflicts between PWC users and other water recreationists.	Does not fully meet objective. There is some conflict between PWC users and other water recreationists.	Meets objective by establishing <u>additional</u> flat-wake zoning around other lake users in addition <u>to prohibited PWC use on the Kettle River</u> and to continued voluntary education programs on boater safety.	Fully meets objective.
Cultural Resources				
Some park units may have cultural resources listed, or may be potentially listed (NRHP), that may be affected along shorelines (erosion), or uncontrolled visitor access since riders are able to access, beach, or launch in areas less accessible to most motorized watercraft.	Manage PWC use and access to protect cultural resources including sacred sites important to Native Americans.	Meets objective with continuation of existing regulations protecting cultural resources. Also, lake drawdown does not typically coincide with peak PWC season.	Meets objective as in alternative A. In addition, <u>prohibited use on Kettle River would further protect cultural resources in that location and</u> expanded monitoring of resources would assist in recognizing a need for implementation of future restrictions.	Fully meets objective.
National Recreation Area Management and Operations				
Some states and local	Seek cooperation	Fully meets	Meets objective. No	Does not meet

Issue	Objective	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS- Managed Waters of Lake Roosevelt
governments have taken action, or are considering taking action, to limit, ban, or otherwise manage PWC use. While the park may be exempt from these local actions, consistency with state and local plans must be evaluated.	with state entities that regulate PWC use.	objective. No conflicts with other regulatory agencies.	conflicts with other regulatory agencies.	objective due to continued PWC use on adjacent tribal waters and difficulty of enforcement of the ban in NPS-managed waters.
PWC use may require additional park staff to enforce standards, limits, or closures because of increased accident rates and visitor conflicts. Enforcement capabilities are currently limited at Lake Roosevelt and enforcement of additional regulations may pose a challenge.	Minimize impacts to recreation area operations from increased enforcement needs.	Fully meets objective. Enforcement needs would not change.	Meets objective. <u>Enforcement of restricted and prohibited areas of use may require additional enforcement needs.</u> No change in enforcement needs.	Does not meet objective. Enforcement of a PWC ban would require an increase in park staff in order to fulfill enforcement needs.

ENVIRONMENTAL CONSEQUENCES

WATER QUALITY

Pages 95–100, “Water Quality” — Change text and tables as follows:

**TABLE 21: THRESHOLD WATER VOLUMES
NEEDED TO DILUTE PWC EMISSIONS – ALTERNATIVE A**

	Water Volumes Needed for Dilution (acre-feet)	
	2002	2012
Volume of water available in mixing zone	2,274,741 acre-feet	
Ecotoxicological Benchmarks^a		
Benzo(a)pyrene (fuel and exhaust)	232 <u>230</u>	429 <u>130</u>
Naphthalene	92	51
1-methyl naphthalene	262 <u>260</u>	445 <u>140</u>
Benzene	220	422 <u>120</u>
MTBE ^c	2	0
Human Health Benchmarks^b		
Benzo(a)pyrene (fuel and exhaust)	747 <u>1,200</u>	643 <u>640</u>
Benzene	23,801 <u>24,000</u>	43,176 <u>13,000</u>
MTBE ^c	8,776 <u>8,800</u>	294 <u>290</u>

a. Threshold volume (in acre-feet) below which ecotoxicological effects might occur.

b. Threshold volumes (in acre-feet) below which human health might be impacted.

c. MTBE assumed at 10% by volume in 2002 and 0.6 of 1% in 2012.

The 2002 and 2012 threshold volumes to meet ecotoxicological benchmarks range from 0 to ~~262~~ 260 acre-feet. These volumes are extremely small in relation to the volumes of water available (2.3 million acre-feet in available mixing zone of NPS waters of Lake Roosevelt), indicating that these pollutant loads would result in concentrations well below the ecotoxicological benchmarks. Consequently, negligible adverse impacts are expected in 2002 and in 2012.

Threshold volumes required to meet human health benchmarks ~~were~~ also are well below the volume available in NPS-managed waters. In 2002 and 2012 the threshold volume required to meet these human health benchmarks would range from ~~294~~ 290 to ~~23,801~~ 24,000 acre-feet, resulting in long-term, negligible adverse impacts.

The most limiting estimated threshold water volume required to meet human health benchmarks is for benzene. The threshold volumes required to meet the benzene human health benchmark are ~~23,801~~ 24,000 and ~~43,176~~ 13,000 acre-feet, for 2002 and 2012, respectively. For benzene, factors other than those discussed above that affect surface water concentrations (especially volatilization) also are considered, but were not incorporated into the estimate of threshold volume. The half-life of benzene in water is less than 5 hours at summer water temperatures near 30°C (Verschuren 1983; EPA 2001). In other words, half the benzene in water would evaporate in less than 5 hours.

Because of the 50% reduction in PWC and outboard motorboat engine emissions estimated by the EPA (1996a, 1997) and because PWC use would only increase from 56 to 62 on a peak day, pollutant loads in 2012 would be lower than in 2002.

Cumulative Impacts. In addition to the personal watercraft that use Lake Roosevelt National Recreation Area, other two-stroke outboard motorboats, and to a lesser degree the high speed and ski boats would contribute pollutants to the water. A total of 1,344 non-PWC vessels in 2002 and 1,485 non-PWC vessels in 2012 are estimated during a peak use day. Table 22 shows how these vessels are distributed for the analysis of cumulative impacts.

**TABLE 22: DISTRIBUTION OF VESSEL TYPE DURING PEAK USE DAYS,
LAKE ROOSEVELT NATIONAL RECREATION AREA**

Vessel Type	Number of Vessels	
	2002	2012
Carbureted two-stroke, fishing boats, pleasure boats	864	955
High-speed and ski boats	480	530
PWC, two-stroke, carbureted engine	56	62
Total Vessels	1,400	1,547

Emissions were calculated for each vessel type for both 2002 and 2012 (see table 23). Emissions from high speed or ski boats were assumed to be 10% of emissions calculated for two-stroke outboard engines or for personal watercraft (assuming all personal watercraft have two-stroke, carbureted engines). These emissions were summed. In 2012, the emissions calculated reflect a 50% reduction applied in order to incorporate EPA estimates of engine conversion based on the 1996 EPA regulations (EPA 1996a, 1997).

The calculated threshold volumes for pollutants emitted in 2002 by personal watercraft and other motorboats in NPS-managed waters are approximately an order of magnitude greater than the threshold volumes due to personal watercraft alone. The cumulative threshold volumes based on ecotoxicological benchmarks would range from 41 to ~~6,854~~ 6,900 acre-feet in 2002. Effects would be long-term because impacts from cumulative sources occur annually during each boating season. In 2012, ecotoxicological threshold volumes would decrease to a range of 1 to ~~3,786~~ 3,800 acre-feet, despite an estimated 1% annual increase in the numbers of personal watercraft and other motorboats, because of the reduction of emissions expected from clean engine technology. The threshold volume for MTBE decreases even more dramatically in 2012 because of the ban on its use beginning in 2004. Concentrations of all the organic contaminants evaluated are well below the water quality benchmarks and would likely not be detectable. Cumulative adverse ecological impacts would be negligible in both 2002 and 2012.

Based on the human health benchmarks, the calculated threshold volumes for benzo(a)pyrene emitted by personal watercraft and boats in 2002 and 2012 in NPS managed waters would be ~~20,646~~ 21,000 and ~~41,637~~ 12,000 acre-feet, respectively. The calculated threshold volume for benzene for 2002 and 2012 would be ~~431,254~~ 430,000 and ~~238,295~~ 240,000 acre-feet, respectively, resulting in negligible adverse impacts. The threshold volume for benzene in 2012 would be lower than in 2002 because of the 50% reduction in PWC and outboard motorboat engine emissions estimated by the Environmental Protection Agency (1996a, 1997). The threshold volume required for dilution for MTBE would be ~~459,047~~ 160,000 acre-feet in 2002 and be reduced to ~~5,272~~ 5,300 acre-feet after the implementation of the ban on MTBE in 2012. The benzo(a)pyrene, benzene, and MTBE threshold volumes would be substantially lower than

the available water volumes under NPS jurisdiction, and therefore, would result in negligible, long-term, adverse impacts to human health.

As noted in the water quality methodology and assumptions section, the available water volume for the above calculations includes water within NPS jurisdictional boundaries only, and does not account for all of the volume available to dilute pollutants across the whole reservoir. Cumulative impacts from all watercraft use on Lake Roosevelt would also similarly affect tribal managed waters because motorized watercraft use the entire lake surface irrespective of the jurisdictional boundary.

Conclusion. Alternative A would have negligible adverse effects on water quality based on ecotoxicological threshold volumes due to the reinstatement of PWC use in NPS-managed waters at Lake Roosevelt. Cumulative pollutant loads in 2002 and 2012 from personal watercraft and other motorboats also would be well below ecotoxicological benchmarks and criteria.

**TABLE 23: THRESHOLD WATER VOLUMES
NEEDED TO DILUTE ALL VESSEL EMISSIONS – ALTERNATIVE A**

	Water Volumes Needed for Dilution (acre-feet)	
	2002	2012
Volume of water available in mixing zone	2,274,741 acre-feet	
Ecotoxicological Benchmarks ^a		
Benzo(a)pyrene (fuel and exhaust)	6,854 <u>6,900</u>	3,786 <u>3,800</u>
Naphthalene	1,667 <u>1,700</u>	924 <u>920</u>
1-methyl naphthalene	4,742 <u>4,700</u>	2,620 <u>2,600</u>
Benzene	3,981 <u>4,000</u>	2,200
MTBE ^c	41	1
Human Health Benchmarks ^b		
Benzo(a)pyrene (fuel and exhaust)	20,646 <u>21,000</u>	11,637 <u>12,000</u>
Benzene	431,254 <u>430,000</u>	238,295 <u>240,000</u>
MTBE ^c	159,017 <u>160,000</u>	5,272 <u>5,300</u>

a. Threshold volume (in acre-feet) below which ecotoxicological effects might occur.

b. Threshold volumes (in acre-feet) below which human health might be impacted.

c. MTBE assumed at 10% by volume in 2002 and 0.6 of 1% in 2012.

Adverse water quality impacts from personal watercraft from benzo(a)pyrene, benzene and MTBE based on human health (ingestion of water and fish) benchmarks would be negligible in both 2002 and 2012, based on EPA and state of Washington water quality criteria. Cumulative impacts from personal watercraft and other watercraft would be negligible adverse and long-term for benzo(a)pyrene, benzene and MTBE. Cumulative impacts from personal watercraft and other motorboats to water quality would also be applicable to tribal managed waters.

Implementation of alternative A would not result in an impairment of the water quality resource.

Impacts of Alternative B — Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. As under alternative A, PWC use would be reinstated within Lake Roosevelt in ~~all~~most locations of the recreation area where it was allowed prior to November 6, 2002. In addition to the current flat-wake areas (upper Kettle River and Hawk Creek) and the restriction on motorized watercraft use on Crescent Bay Lake, additional flat-wake speed zoning and prohibited use areas would be implemented. The flat-wake restriction would apply to the following areas:

- Within 200 feet from launch ramps, marina facilities, campgrounds, swim beaches, water skiers and other persons in the water;
- The Spokane Arm from 100 feet west of the Two Rivers Marina on the downstream end, to 100 feet east of the launch ramp on the upstream end, above the vehicle bridge.

Personal watercraft use would be prohibited on the Kettle River from the Hedlund Bridge, upstream to the headwaters. The prohibition of PWC use on the Kettle River or additional flat-wake zones. These additional flat-wake restrictions do not change the overall direct or indirect impacts on water quality in NPS-managed waters of Lake Roosevelt from personal watercraft relative to alternative A. PWC use on the Kettle River is low, with a peak use of 12 individual PWC in the entire Kettle Falls District on a peak use day. Therefore, the effects of prohibited PWC use in the Kettle River would likely be minimal. Since personal watercraft are assumed to operate for only short periods of time in flat wake zones, effects from low throttle operation in these areas would likely be insignificant. Therefore, calculations only address full throttle operation in the main body of the reservoir. However, it is acknowledged that emissions could potentially build up in other areas where use is heavier such as around launch facilities and other shallow water high activity areas where PWCs are permitted, especially in shallow water zones flat wake zoning would be extended. Alternative B would also establish a resource monitoring program addressing water quality sampling for watercraft emissions in areas of high PWC and other motorized vessel use. These efforts would assist in the detection and future prevention of adverse impacts from PWC and other boating use in the above flat-wake areas.

PWC use would continue in Lake Roosevelt, in other areas where use is not prohibited. PWC use that previously launched from the Napoleon Bridge launch would be displaced to other launch sites within the Lake Roosevelt recreation area or tribal launch facilities. Despite the restricted use of PWC on Kettle River, the numbers of vessels in 2002 and 2012 are likely to remain the same but would likely use adjacent areas. Because the numbers of personal watercraft and hours of operation are the same as under alternative A, and results of this analysis are the same as under alternative A. Impacts to water quality of Kettle River would be eliminated, however.

Cumulative Impacts. As in alternative A, cumulative adverse impacts from personal watercraft and other watercraft would be negligible and long-term for benzo(a)pyrene, benzene and MTBE. Additional restriction areas for PWC use and flat wake zone restrictions would not substantially change the cumulative impacts on water quality in NPS or tribal managed waters.

Conclusion. The adverse impacts to water quality from alternative B would be ~~the same as~~similar to those under alternative A. ~~Although~~However, additional ~~flat wake~~PWC use restrictions ~~would be implemented in~~on the Kettle River some areas would result in localized, long-term, minor, beneficial impacts due to the elimination of pollutant loads. effects from low throttle operation would not measurably change water quality impacts to NPS managed waters.

PWC use under alternative B would have negligible adverse effects on water quality based on ecotoxicological threshold volumes. Cumulative pollutant loads in 2002 and 2012 from personal watercraft and other motorboats would be more than an order of magnitude greater than from personal watercraft alone. However, impacts would be well below ecotoxicological benchmarks and criteria. Adverse water quality impacts from personal watercraft from benzo(a)pyrene, benzene and MTBE based on human health (ingestion of water and fish) benchmarks would be negligible in both 2002 and 2012, based on EPA and state of Washington water quality criteria. Cumulative adverse impacts from personal watercraft and other watercraft would be negligible for benzo(a)pyrene, benzene and MTBE. Cumulative impacts from personal watercraft and other motorboats to water quality would also be applicable to tribal managed waters.

Implementation of alternative B would not result in an impairment of the water quality resource at Lake Roosevelt. The restriction of PWC use in some areas (e.g., Spokane Arm and Kettle River) would result in long term beneficial impacts to selected portions of NPS managed waters.

Impacts of the No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt

Analysis. Under the no-action alternative, PWC use would not be reinstated within Lake Roosevelt National Recreation Area, resulting in the elimination of direct impacts to water quality in NPS-managed waters. However, PWC use would continue in Lake Roosevelt outside the boundaries of the national recreation area and some personal watercraft that previously launched from NPS sites would be displaced to tribal launch facilities. As discussed in Current Use Estimates, under the no-action alternative, an estimated 27 personal watercraft that launch from tribe-controlled ramps could still be used in NPS-controlled waters.

Cumulative Impacts. Cumulative emissions in NPS-managed waters of Lake Roosevelt would be less than under alternative A because of the elimination of PWC use from the National Recreation Area portion of the reservoir. Cumulative effects from activity of motorboats on an average high-use day would be the same as described under the previous alternatives, increasing from an estimated 1,344 boats in 2002 to 1,485 boats in 2012. Assumptions for hours of use for each vessel type remain the same as in alternatives A and B.

Threshold volumes in both 2002 and 2012 based on ecotoxicological benchmarks for pollutants and based on the human health benchmarks for benzo (a) pyrene, benzene and MTBE are all substantially lower than the water volumes available. Therefore, emissions from motorboat activity would have a negligible, long-term adverse impact on water quality in NPS-managed waters.

The estimated threshold volumes for benzene, based on EPA water quality criteria, is again, the most limiting. Threshold volumes for benzene (human health based) are ~~418,928~~ 420,000 and ~~248,389~~ 250,000 acre-feet in 2002 and 2012. However, these adverse impacts are expected to be negligible even without considering the effects of the half life of benzene (see table 24).

PWC use originating from tribal launch sites would continue in tribal-managed waters. This use combined with other motorized watercraft use would continue to affect water quality of tribal-managed waters ~~and but~~ would be similar to less than the cumulative impacts under alternatives A and B. The contribution from continued and displaced PWC use to cumulative effects on tribal managed waters (42% of the 3,921,967 acre-feet total lake volume at minimum pool) ~~from continued and displaced PWC use~~ would be negligible as shown in table 25.

Conclusion. PWC use would not be reinstated within NPS-managed waters of Lake Roosevelt, resulting in long-term beneficial impacts due to the elimination of pollutant loads in these waters from personal watercraft. Cumulative impacts from motorboats would be negligible and long term for all ecotoxicological and human health benchmarks, as in other alternatives.

The contribution of PWC to cumulative impacts in NPS-managed waters would be ~~eliminated~~ reduced. Cumulative impacts from motorized boats would be negligible and long term for all ecotoxicological and human health benchmarks, as in other alternatives. Continued PWC use on tribal managed waters would contribute to negligible adverse cumulative impacts from watercraft activity to quality of waters under tribal jurisdiction. However, the number of personal watercraft would decrease from an estimated 56 to only 27 on a peak day due to the continued prohibition of PWC use in NPS-controlled waters of Lake Roosevelt.

Implementation of this alternative would not result in an impairment of the water resource.

TABLE 24: THRESHOLD WATER VOLUMES NEEDED TO DILUTE BOATING EMISSIONS^a IN NPS-MANAGED WATERS OF LAKE ROOSEVELT – NO-ACTION ALTERNATIVE

	Water Volumes Needed for Dilution	
	(acre-feet)	
	2002	2012
Volume of water available in mixing zone	2,274,741 acre-feet	
Ecotoxicological Benchmarks^b		
Benzo(a)pyrene (fuel and exhaust)	6,624 6,700	2,364 2,400
Naphthalene	1,575 1,600	936 960
1-methyl naphthalene	4,484 4,600	2,664 2,700
Benzene	3,764 3,900	2,234 2,300
MTBE ^c	38 39	1
Human Health Benchmarks^c		
Benzo(a)pyrene (fuel and exhaust)	49,898 20,000	41,819 12,000
Benzene	407,453 420,000	242,014 250,000
MTBE ^d	150,241 150,000	5,354 5,500

a. Includes personal watercraft launched from tribe-controlled launch ramps.

b. Threshold volume (in acre-feet) below which ecotoxicological effects might occur.

c. Threshold volumes (in acre-feet) below which human health might be impacted.

d. MTBE assumed at 10% by volume in 2002 and 0.6 of 1% in 2012.

TABLE 25: THRESHOLD WATER VOLUMES NEEDED TO DILUTE PWC EMISSIONS IN TRIBAL MANAGED WATERS OF LAKE ROOSEVELT– NO-ACTION ALTERNATIVE

	Water Volumes Needed for Dilution (acre-feet)	
	2002	2012
Volume of water available in mixing zone	1,647,226 acre-feet ^a	
Ecotoxicological Benchmarks ^b		
Benzo(a)pyrene (fuel and exhaust)	412 <u>110</u>	62
Naphthalene	44	25
1-methyl naphthalene	426 <u>130</u>	70
Benzene	406 <u>110</u>	59
MTBE ^c	1	0
Human Health Benchmarks ^c		
Benzo(a)pyrene (fuel and exhaust)	560	344 <u>310</u>
Benzene	41,476 <u>11,000</u>	6,375 <u>6,400</u>
MTBE ^d	4,231 <u>4,200</u>	444 <u>140</u>

a. Water available for mixing under tribal jurisdiction (42% of lake volume at minimum pool).

b. Threshold volume (in acre-feet) below which ecotoxicological effects might occur.

c. Threshold volumes (in acre-feet) below which human health might be impacted.

d. MTBE assumed at 10% by volume in 2002 and 0.6 of 1% in 2012.

AIR QUALITY

Pages 104–105, 107–108, and 112, “Air Quality” — Change text as follows:

METHODOLOGY AND ASSUMPTIONS

14. Pollutant emissions were calculated for 2002 and 2012. As described in the “Water Quality” section, estimates of watercraft use were based on park staff observations and statistics from various sources including the *General Management Plan*, Washington State population projections and National Marine Manufacturers Association boating registration statistics. For 2002, it was assumed that there were 116,984 combined PWC and boat trips, as shown previously in table 12 in the “PWC and Boating Use Trends” section. PWC use was assumed at 4,486 machines, each of which was assumed to engage in one trip that was 3 hours in duration (approximately 4% of all watercraft trips). The non-PWC trips were assumed to be 72,278 outboard engine boats (64.2% of non-PWC) and 40,220 inboard engine boats (35.8%). The outboard engine boats include fishing boats, with an average 2.5 hour trip, and pleasure boats, with an average 4.5 hour trip. Inboard boats were assumed to include the high-speed boats with average trip duration of 4.5 hours. For 2002, it was assumed that all PWC and outboard engines at Lake Roosevelt National Recreation Area were carbureted two-stroke (~~dirty~~) engines, and that all inboard engines were four-stroke (~~clean~~) engines.

IMPACT ANALYSIS AREA

The impact analysis area includes the immediate location of PWC use and the surrounding national recreation area where air pollutants may accumulate. ~~More specifically, the impact analysis area is Lake Roosevelt plus a 100-foot wide strip inland. It is assumed that air pollutants would dissipate beyond 100 feet due to air currents.~~

Impacts of Alternative A — Reinstatement PWC Use under a Special NPS Regulation as Previously Managed

Conclusion. PWC use in NPS-managed waters would result in negligible adverse impacts to human health related to the airborne pollutants HC, PM₁₀ and NO_x, and minor adverse impacts from CO for the year 2002. The risk from PAH would also be negligible. In 2012, there would be a negligible increase in NO_x emissions and a decrease in emissions of the other pollutants, although the impact level for these pollutants would remain the same as in 2002.

Cumulative emission levels from boating use on NPS-managed waters of Lake Roosevelt would be negligible for PM₁₀, and moderate for HC and CO in 2002 and 2012. NO_x emissions would be negligible in 2002 and minor in 2012. CO and NO_x emissions would increase from 2002 to 2012 because of increased boating activity and cleaner engines that have higher CO and NO_x emissions. Although there would be an increase in NO_x emissions in 2012, the greater reduction in HC emissions would result in a beneficial impact to regional ozone concentrations. ~~Therefore, this alternative would maintain or improve existing air quality conditions, with future reductions in PM₁₀ and HC emissions due to improved emission controls.~~ Overall, PWC emissions of HC are estimated to be 10% to 11% of the cumulative boating emissions in 2002 and 2012. Cumulative impacts from watercraft emissions would also be applicable to adjacent areas under tribal jurisdiction. All impacts would be long term.

Implementation of this alternative would not result in an impairment of air quality.

Impacts of Alternative B — Reinstatement PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. Under this alternative, PWC use of NPS-managed waters of Lake Roosevelt would be reinstated with some additional restrictions to the management strategies in force prior to the closure. The additional restrictions would extend flat-wake requirements to within 200 feet of launch ramps, campgrounds, and other visitor use areas as well as in a portion of the Spokane Arm in the Two Rivers area. Furthermore, additional restrictions would prohibit PWC use on the Kettle River from the Hedlund Bridge upstream to the north and restrict PWC launching from the Napoleon Bridge. ~~extend flat-wake requirements at launch ramps, campgrounds and other visitor use areas and in a portion of the Spokane Arm in the Two Rivers area.~~

These additional restrictions would not prohibit other types of motorized vessels on the Kettle River. However, there would be no not-change in the type of personal watercraft in use nor increase or decrease the number of personal watercraft forecast between 2002 and 2012 in adjacent areas. As a result, human-health air quality impacts from alternative B would be the

same as alternative A for 2002 and 2012, and would be minor for CO and negligible for HC, PM₁₀, and NO_x. The human health risk from PAH would also be negligible in 2002 and 2012.

Cumulative Impacts. Under alternative B, cumulative impacts from boating use on NPS-managed waters of Lake Roosevelt would be the same as alternative A because there would be no change in the total number of PWC and other motorized boat visits. Adverse impacts to human health from air pollutants in 2002 would be negligible for PM₁₀ and NO_x, and moderate for HC and CO. In 2012, levels for PM₁₀ would remain negligible and HC and CO would remain moderate, while NO_x would increase to minor due to an implementation of new engine technology and an increase in boating use. Cumulative impacts would also be applicable to areas under tribal jurisdiction.

Conclusion. Alternative B would result in the same air quality impacts to human health from PWC emissions as alternative A because there would be no change in the total number of non-PWC motorized boat visits. Additional management prescriptions would not noticeably affect PWC emissions as the same number of PWC users are expected to occur in the recreation area. As in alternative A, negligible adverse impacts for HC, PM₁₀ and NO_x, and minor impacts for CO would occur for 2002 and 2012. The risk from PAH would also be negligible in 2002 and 2012.

Cumulative adverse impacts from PWC and other boating emissions within the national recreation area would be the same as for alternative A because there would be no change in the total number of PWC and other motorized boat visits, and would be moderate for CO and HC, and negligible for PM₁₀ and NO_x in 2002. In 2012, NO_x impact would increase to minor; impacts for the other pollutants would remain at 2002 levels. A beneficial impact to regional ozone emissions would occur due to a reduction in HC emissions. This alternative would not interfere with, maintain, or improve existing human health air quality conditions, with future reductions in PM₁₀ and HC emissions due to improved emission controls. The PWC contribution to emissions of HC is estimated to be 10% to 11% of the cumulative boating emissions in 2002 and 2012. Cumulative impacts from watercraft emissions would also be applicable to adjacent areas under tribal jurisdiction. All impacts would be long term.

Implementation of this alternative would not result in an impairment of air quality.

Impacts of Alternative B — Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. Additional management prescriptions in alternative B, including ~~flat-wake-additional flat-wake zones and area-use~~ restrictions and the closure of Kettle River to PWC, would not affect PWC use numbers and potential future increases. Therefore, the predicted emission levels and impacts of continued PWC use to air quality related values in the national recreation area would be negligible as described for alternative A based on annual emission rates.

Cumulative Impacts. Cumulative adverse impacts from personal watercraft and other motorized boats within the national recreation area to air quality related values in both 2002 and 2012 would be moderate as described under alternative A. Emissions of PM_{2.5} and SUM06 ozone values would be within the minor range for both 2002 and 2012. NO_x would increase to above 50 tons/year in 2012; HC levels would be moderate for both years. Cumulative impacts would also be applicable to tribal managed areas.

Conclusion. The impacts of alternative B would be the same as alternative A because there would be no change in the total number of PWC and other motorized boat visits. Alternative B would have long-term negligible adverse impacts to air quality related values from personal watercraft and moderate adverse impacts from cumulative emissions from motorized boats and personal watercraft in both 2002 and 2012. This conclusion is based on calculated levels of pollutant emissions. There are no observed visibility impacts or ozone-related plant injury in the recreation area. Cumulative impacts would also be applicable to tribal managed areas.

Implementation of this alternative would not result in an impairment of air quality related values.

SOUNDSCAPES

Page 121, “Soundscapes” — Change alternative B as follows:

Impacts of Alternative B — Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. Under alternative B, PWC use would be reinstated with additional management strategies to mitigate watercraft safety concerns and to enhance overall visitor experience.

PWC use would follow the same patterns as in alternative A; however, alternative B would result in a reduction in noise levels from personal watercraft to park visitors, including fisherman and near shoreline users of the swimming, picnic, and camping areas, as flat-wake speed would be implemented in these areas, resulting in beneficial impacts. The magnitude of noise reduction near the speed restriction areas would be dependent on the changes in location and speed. As described in the analysis for alternative A, a reduction from 40 mph to 20 mph would reduce PWC noise levels approximately 5 dBA. Negligible noise reductions would occur with reductions in speed limits below 20 mph. Increasing the distance from the personal watercraft to the listener from 100 to 200 feet, would result in a noise reduction of about 6 dBA.

In addition to flat-wake restrictions, PWC use would be prohibited on the Kettle River from the Hedlund Bridge, north (upstream) to the headwaters. This would eliminate noise from PWC in this area, resulting in beneficial impacts to park visitors. However, other motorized vessels would continue to have access to the Kettle River under alternative B.

The types and levels of adverse impacts to the soundscape of other parts of Lake Roosevelt National Recreation Area would be generally the same as for alternative A, including the minor adverse impacts when PWC use is occasional and distanced from other park users, and moderate adverse impacts from concentrated PWC use in one area. Overall, minor to moderate adverse impacts would result from PWC use on the soundscape of the recreation area. Impacts would generally be short-term, although they could periodically be more consistent and bothersome at shoreline areas on the very high use days, where motorized watercraft noise may predominate off and on for most of the day. Most visitors to Lake Roosevelt National Recreation Area during those high use periods expect to hear motorized craft during the day, as the lake is known by the mostly local and regional users for providing this type of recreational opportunity, in addition to other activities.

Cumulative Impacts. Non-PWC sounds in Lake Roosevelt National Recreation Area include natural sources, such as waves or wind, other watercraft, automobiles on SR 25, aircraft, lumber operations, and other visitor activities. Cumulative impacts on the Lake Roosevelt soundscape and overall threshold levels would be similar to those of alternative A for both NPS- and tribal-managed areas, and would cause minor to moderate adverse impacts. The ~~elimination~~ reduction of noise due to restricted PWC use on the Kettle River, as well as the reduction in noise from ~~personal watercraft~~ PWC operating under the ~~alternative B~~ additional flat-wake restrictions, within the national recreation area would likely have negligible effects on reducing cumulative noise levels in areas of mixed boating use. When combined with the minor to moderate, adverse impacts described under alternative B, cumulative impacts would be long-term, minor, and adverse.

Conclusion. Noise from personal watercraft would have minor to moderate adverse impacts at most locations at Lake Roosevelt National Recreation Area and the immediate surrounding area. Impact levels would relate to the number of personal watercraft operating as well as the sensitivity of other visitors. Additional flat-wake restrictions and prohibited PWC use areas would have beneficial impacts to some park visitors from reduced noise levels. Cumulative adverse noise impacts from personal watercraft and other watercraft, automobiles on SR 25, aircraft, lumber operations, and other visitor activities would be minor to moderate because these sounds would be heard occasionally throughout the day, and may predominate on busy days during the high use season. Cumulative impacts to the soundscape at adjacent tribal managed visitor use areas would be similar to impacts in NPS-managed areas.

Implementation of this alternative would not result in an impairment of the park's soundscape.

WILDLIFE AND WILDLIFE HABITAT

Pages 124–127 “Wildlife and Wildlife Habitat” — Change text as follows:

Impacts of Alternative A — Reinstate PWC Use under a Special NPS Regulation as Previously Managed

Analysis. PWC use could affect wildlife wherever motorized vessels are allowed. Personal watercraft would be allowed to operate and launch at designated sites throughout the national recreation area. Restrictions that were in place prior to the PWC closure would be applicable and include restrictions on all watercraft in Crescent Bay Lake (prohibited), Hawk Creek (flat-wake restrictions), and the upper Kettle River (flat-wake restrictions). Due to low water and air temperatures throughout the majority of the year, primary PWC use occurs from June through September with peak use during July and August. PWC use levels are low relative to other recreation area activities, with approximately 56 PWC users on a peak use summer day in 2002, as noted in the “Methodology and Assumptions” section.

Within the impact analysis area, wildlife such as waterfowl are most likely to occur near the shoreline due to habitat constraints. Some species such as small mammals may visit the shoreline often, even though their primary habitat is outside of the immediate shoreline area. Other wildlife species that occur within the recreation area occur at the shoreline only infrequently. Primary habitat for many species is associated with tributary drainages or forested areas near the northern

portions of the lake. There are no documented cases of deliberate harassment or collisions with wildlife by PWC users on Lake Roosevelt.

The following summarizes the impacts that would be expected from PWC use to the wildlife species and habitat discussed in the “Affected Environment” chapter. In some cases, species mentioned in the general wildlife description are not likely to occur in the limited area of water and shoreline that is within the study area and therefore are not included in the impact analysis.

Mammals – Impacts to mammals would be ~~negligible to minor~~ to moderate because most species rarely use the shoreline. Most are either transient visitors from inland parts of the recreation area or are generally acclimated to human intrusion. Aquatic mammals such as beaver are mobile and can avoid noise and physical disturbance associated with PWC use. Their breeding areas are typically in backwater areas not frequented by personal watercraft and adverse impacts would be ~~negligible~~ minor. In addition, primary habitat areas for large mammals such as deer and elk are typically located further inland away from areas of PWC use. ~~Negligible~~ Minor adverse impacts to these species would include potential disturbance from PWC noise. Small mammals common to the area such as marmots, skunks, porcupines, and chipmunks generally acclimate easily to human activity and have the ability to avoid impacts. Potential adverse impacts to these species include minor and short-term disturbances due to PWC noise.

Birds – Breeding habitat (aquatic and shoreline vegetation) for birds is lacking within areas utilized by personal watercraft at Lake Roosevelt National Recreation Area. Suitable habitat is located in the Hawk Creek and Kettle and Colville rivers, but these locations are protected by flat-wake designation or inaccessibility to personal watercraft. Flat-wake zones protect habitat by slowing personal watercraft to speeds that result in less noise disturbance and less erratic behavior. In addition, most personal watercraft are not used in the spring at Lake Roosevelt due to low water and air temperatures, further minimizing the potential for disturbance to breeding individuals. Waterfowl would be more susceptible to PWC use than other bird species, but any impacts would be short-term, and would likely constitute temporary disturbance to foraging or resting individuals through noise or physical disturbance. The potential exists for some impacts during brood rearing, but again is unlikely due to lack of suitable habitat in areas of high PWC use. Due to a lack of breeding or brood rearing habitat for waterfowl and other birds in areas of PWC use at the recreation area, adverse impacts to avian species associated habitat would be short-term ~~negligible to minor~~ to moderate.

Fish – Personal watercraft could potentially affect fish through pollutant loads and/or physical disturbance. As discussed in the “Water Quality” section, reinstated use of personal watercraft would create pollutant loads that are well below ecotoxicological benchmarks. Therefore, adverse impacts to fish related to water contamination by personal watercraft at Lake Roosevelt would be ~~negligible~~ minor. Impacts from pollution would decrease between 2002 and 2012, despite projected increases in PWC use, because overall pollutant loads would decrease as a result of marine engine conversions to cleaner engine technology per EPA industry standards.

The lack of shoreline aquatic vegetation and invertebrate populations in recreation area waters precludes the existence of concentrated shallow water feeding areas that would be susceptible to effects from personal watercraft. In general, fish avoid direct impact from personal watercraft. Adverse impacts from physical disturbance by PWC use to fish populations and spawning areas at Lake Roosevelt would be short-term, ~~negligible to minor~~ to moderate.

Amphibians and Reptiles – Impacts to reptiles and amphibians would be most likely to occur in locations where personal watercraft or their users disrupt nesting or breeding sites. Such sites are

not known to be common in areas of high PWC use at the recreation area. Adverse impacts from PWC activity at Lake Roosevelt would be ~~negligible-minor~~ and are expected to be short term.

Cumulative Impacts. Potential cumulative impacts to wildlife and wildlife habitat in the recreation area include various visitor activities, such as motorized boat operation, that occur in proximity to wildlife species. Visitors have access to the shoreline by many types of non-PWC watercraft, automobiles, and hiking. Non-PWC boating activities account for approximately 95% of total boating activity in the recreation area. Wildlife routinely exhibit movement or flight response due to disturbance by powerboats that is similar to response from PWC-caused disturbance (Rodgers and Schwikert 2002).

Interactions between wildlife and human visitors would be limited because of the low abundance of wildlife within the high use areas and the dispersion of visitors along the shoreline. Shoreline activities tend to be concentrated around developed facilities, where habitat characteristics are lacking relative to undeveloped shoreline areas. Visitor interactions would not interfere with feeding, reproduction, or other activities necessary for the survival of wildlife species. Cumulatively, visitors engaging in multiple activities, including PWC use, would cause minor, short-term adverse impacts to wildlife that are dispersed over a large area along the shoreline.

Operations of the Grand Coulee Dam are implemented jointly by the Bureau of Reclamation and the U.S. Army Corps of Engineers. The Bonneville Power Administration sells the electricity generated by the dam. Fluctuation of lake levels for power production and management of the Columbia River contributes to cumulative effects on fish and wildlife habitat in the recreation area. Water retention times and lake levels in Lake Roosevelt affect fish through impacts on nutrient availability, zooplankton populations (food source for fish), and movement of fish past the dam (Underwood and Shields 1996). Wildlife habitat is also potentially affected when lake fluctuations affect water levels in tributary drainages that support wetland and riparian vegetation. Adverse impacts from lake operations to fish or wildlife habitat could be minor to moderate and long term. PWC use at current and future levels would not increase this impact.

Cumulative impacts to tribal managed wildlife resources would be similar to those described above for NPS-managed areas.

Conclusion. PWC use within NPS-managed areas at Lake Roosevelt would have ~~negligible to~~ minor to moderate adverse impacts on fish, waterfowl, and other wildlife. Due to low levels of PWC use in the recreation area, coupled with a lack of prime habitat areas at the shoreline, any impacts to fish, wildlife and respective habitats would be temporary and short term. The intensity and duration of impacts is not expected to increase substantially over the next 10 years, since PWC numbers would not increase substantially and engine technology would continue to improve under EPA industry regulations. Cumulative impacts from motorized boating and other visitor activities would have short-term, minor adverse effects on wildlife and wildlife habitat. Wildlife habitat would also be potentially affected when lake fluctuations affect water levels in tributary drainages that support wetland and riparian vegetation. ~~Lake operations also contribute to cumulative impacts through fluctuations in water level and potentially would cause minor to moderate adverse impacts to fish, and beneficial or adverse impacts to riparian and wetland areas that provide habitat for wildlife.~~ Cumulative impacts to tribal managed wildlife resources would be similar to those described above for NPS-managed areas.

Implementation of this alternative would not result in impairment to wildlife or wildlife habitat.

Impacts of Alternative B — Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. Under alternative B, PWC use would occur in the recreation area as under alternative A, except some additional management strategies would be implemented, such as prohibited use on the Kettle River from the Hedlund Bridge north to the headwaters and additional flat-wake restrictions around activity areas and along a small stretch of the Spokane Arm. ~~awould~~ The added flat-wake restrictions would be implemented in areas where visitor activities are currently high, precluding the existence of prime wildlife habitat. Therefore, these flat-wake restrictions and prohibited use on the Kettle River would ~~cause only benefit eial impacts~~ wildlife through a decrease in noise and disturbance by personal watercraft. In addition, a resource monitoring program would be established to assist in the detection and prevention of future impacts from PWC use. This would ~~cause beneficial~~ minimize impacts to wildlife as future management strategies could be implemented based on data gathered during monitoring. The Kettle River provides suitable habitat for nesting waterfowl and other bird species associated with riparian environments. The prohibition of PWC on the Kettle River would benefit wildlife species in the localized area. However, peak PWC use on the Kettle River is low and motorized boats would continue to be permitted on the Kettle River at flat-wake speeds, so impacts would be remain minor to moderate. Therefore, despite beneficial management strategies, adverse impacts to fish and wildlife from PWC use at Lake Roosevelt National Recreation Area would be negligible ~~minor to minor~~ moderate, but would be less than under alternative A. All wildlife impacts would be temporary and short term.

Cumulative Impacts. The cumulative effects of alternative B would be ~~the same as minor to moderate, similar to~~ alternative A. However, under alternative B, additional flat-wake zones and prohibition of PWC use on the Kettle River would minimize these impacts. Adverse impacts to wildlife and wildlife habitat from motorized boats and other visitor activities would be short-term and minor. Lake operations could cause long-term minor to moderate adverse cumulative impacts to fish and wildlife habitat through effects on water levels and retention times in the reservoir. Cumulative impacts to tribal managed wildlife resources would be similar to those described above for NPS-managed areas. When combined with the minor to moderate, adverse impacts described under alternative B, cumulative impacts would be adverse, long-term, and minor to moderate.

Conclusion. The reinstatement of PWC use with additional flat-wake restrictions, prohibited use on the Kettle River, and the establishment of a resource monitoring program would benefit wildlife species inhabiting the Lake Roosevelt recreation area through ~~have beneficial impacts to wildlife due to the~~ decreased noise and disturbance from personal watercraft and the ability to mitigate future impacts. Despite these benefits, impacts to wildlife and wildlife habitat would be adverse ~~negligible to minor~~ moderate in 2002 and 2012, similar to alternative A. All wildlife impacts from personal watercraft would be temporary and short term. Cumulative adverse impacts from motorized boats and other visitor activities would be ~~negligible to minor~~ moderate as under alternative A. Lake operations would also contribute to cumulative adverse impacts through minor to moderate levels of long-term habitat disturbance. Cumulative impacts to tribal managed wildlife resources would be similar to those described above for NPS-managed areas.

Implementation of this alternative would not result in impairment to wildlife or wildlife habitat.

THREATENED, ENDANGERED, OR SPECIAL CONCERN SPECIES

Pages 128 and 133–134, “Threatened, Endangered, or Special Concern Species” — Change “Guiding Regulations and Policies” and alternatives A and B as follows:

GUIDING REGULATIONS AND POLICIES

The Endangered Species Act (16 USC 1531 et seq.) mandates that all federal agencies consider the potential effects of their actions on ~~species~~federally listed ~~as~~threatened or endangered species. If the National Park Service determines that an action may adversely affect a federally listed species, consultation with the U.S. Fish and Wildlife Service is required to ensure that the action will not jeopardize the species’ continued existence or result in the destruction or adverse modification of critical habitat.

An analysis of the potential impacts to those special status species that potentially could be affected by PWC use at Lake Roosevelt is included in this section. At Lake Roosevelt it has been determined that none of the alternatives are likely to adversely affect any of the listed species. The completed environmental assessment will be submitted to the U.S. Fish and Wildlife Service for its review. If the agency concurs with the finding of the National Park Service, no further consultation will be required.

Formal consultation would be initiated if the National Park Service determined that actions in the preferred alternative would be likely to adversely affect one or more of the federally listed threatened or endangered species identified in the recreation area. At that point a biological assessment would be prepared to document the potential effects. From the date of initiation of formal consultation, the Fish and Wildlife Service would be allowed 90 days to consult with the agency and 45 days to prepare a biological opinion based on the biological assessment and other scientific sources. The Fish and Wildlife Service would state its opinion as to whether the proposed PWC activities would be likely to jeopardize the continued existence of the listed species or to result in the destruction or adverse modification of critical habitat. Such an opinion would be the same as a determination of impairment. To ensure that a species would not be jeopardized by PWC activities, the National Park Service would confer with the Fish and Wildlife Service to identify recommendations for reducing adverse effects and would integrate those into the preferred alternative.

Impacts of Alternative A — Reinstate PWC Use under a Special NPS Regulation as Previously Managed

Analysis. *Special Status Animals* — The Columbia River and Lake Roosevelt provide opportunities for wintering activity for bald eagles (federal and state listed threatened), as there is ample food supply available within the waters of the area. The over-wintering population of eagles at Lake Roosevelt is large, while the resident population is low. The highest PWC use at Lake Roosevelt occurs in July and August, which does not coincide with wintering bald eagle activity, but slightly overlaps with known nesting activity from January to July. Potential impacts to bald eagles include temporary disturbance from PWC noise or physical disturbance to individuals nesting near the shoreline. Eagle nest sites would be assessed for sufficient buffers and would be protected accordingly. However, rising numbers of resident eagles at the recreation area in recent years suggest that PWC use or other motorized activities at Lake Roosevelt is not a limiting factor for area populations. PWC use or other motorized watercraft activities at the

national recreation area may affect, but is not likely to adversely affect bald eagles or their habitat.

Impacts of Alternative B — Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. This alternative would reinstate PWC use in NPS-managed waters at Lake Roosevelt as in alternative A, but with additional management strategies. In areas of additional flat-wake restrictions, noise and physical disturbance from personal watercraft would decrease, especially in the areas of high visitor activity, where special status species are not likely to be present. At the Kettle River, where PWC use would be prohibited from the Hedlund Bridge north to the headwaters, noise and physical disturbance from PWC would be eliminated. Prohibition of PWC on the Kettle River would benefit threatened or endangered species inhabiting wetlands or marsh environments, particularly the black tern. However, reinstatement of PWC may affect, but is unlikely to adversely affect the black tern.

Bull trout, which may inhabit tributaries of the Kettle River, would also experience beneficial impacts—benefit from additional management strategies under alternative B, as would the giant helleborine, which also prefers wetland areas and may exist along the Kettle River shoreline. In addition, the establishment of a resource monitoring program would assist in the detection and prevention of future impacts and would also lead to a minor reduction in the potential from PWC-related effects to special status species relative to alternative A.

Under alternative B, PWC use within the national recreation area may affect, but would not likely adversely affect special status species including bald eagle, bull trout, California bighorn sheep, American peregrine falcon, American white pelican, black tern, moose, least bladdery milkvetch, Nuttall's pussytoes, or giant helleborine. However, the potential for impacts to these species would be reduced relative to alternative A due to additional flat-wake zones, prohibited PWC use on the Kettle River, and the implementation of resource monitoring. There would be no effect to all other federal or state listed species including the Canada lynx, gray wolf, grizzly bear, woodland caribou, Ute ladies'-tresses, or Columbia crazyweed, as under alternative A. Over the next 10 years, impacts are not likely to increase within the national recreation area since PWC numbers are not expected to increase substantially. All impacts to special status species would be temporary and short term.

Cumulative Impacts. Under alternative B, cumulative impacts to special status species would be similar to alternative A and may affect, but would not likely adversely affect special status species or their habitat within the national recreation area. Cumulative activities result from lake operations as well as visitor activities that are concentrated mostly in developed areas rather than in habitat for or in areas of frequent occurrence by special status species. ~~Prohibited PWC use on the Kettle River would provide long-term benefits to special status species.~~

Conclusion. Reinstatement of PWC use within the national recreation area with additional management strategies may affect, but is not likely to adversely affect, any of the listed wildlife or plant species. The potential for adverse impacts effects is less than under alternative A due to additional flat-wake restrictions, prohibited PWC use on the Kettle River, and the establishment of a resource monitoring program. While some disturbance to special status species could occur from PWC use, other visitor activities on the lake and shoreline, ~~and or~~ lake operations, these cumulative impacts would not be of sufficient duration or intensity to cause adverse impacts.

~~No~~Reduced impacts would occur in designated areas where personal watercraft would be prohibited or where additional speed or flat-wake restrictions would be enforced.

Under alternative B, cumulative impacts to special status species would be similar to alternative A and may affect, but would not likely adversely affect special status species or their habitat within the national recreation area. Prohibited PWC use on the Kettle River would provide long-term benefits to special status species.

Implementation of this alternative would not result in an impairment of threatened or endangered species.

SENSITIVE SHORELINE VEGETATION

Page 137, “Sensitive Shoreline Vegetation” — Change alternative B as follows:

Impacts of Alternative B — Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. PWC use would be reinstated in NPS-managed waters at Lake Roosevelt as in alternative A, but with additional management strategies. Additional flat-wake restrictions would be implemented in areas of high visitor activity, ~~but accessibility to the shoreline would not change from alternative A and~~ PWC use would be prohibited on the Kettle River from the Hedlund Bridge upstream (north). This restriction of PWC on the Kettle River would prohibit PWC from landing on the shoreline, however, the benefits to shoreline vegetation would be negligible as other motorized boats would be permitted on the river at flat-wake speeds. The establishment of a resource monitoring program could assist in both the detection of sensitive vegetation communities that may establish along the shoreline, and the determination of the need for implementation of future restrictions to prevent future impacts. This would benefit sensitive shoreline vegetation resources in the national recreation area.

Cumulative Impacts. Combined with the negligible impacts under alternative B, cumulative adverse impacts related to all watercraft activity and other visitor activities would be the same as described for alternative A, and would be negligible. Impacts from Lake level fluctuation would continue to be negligible to minor. Cumulative impacts to tribal managed shorelines at Lake Roosevelt from motorized boating and PWC use would be similar to impacts on NPS-managed areas.

Conclusion. Impacts to shoreline vegetation would be ~~the same as~~ similar to alternative A, although some benefit could result from additional flat-wake zones, prohibited use on the Kettle River, and resource monitoring if sensitive vegetation communities become established. Cumulative adverse impacts from motorized boats and other watercraft, other visitor activities, and wind-caused wave action would remain negligible, while impacts from lake level fluctuations would be negligible to minor. Cumulative impacts to tribal managed shorelines at Lake Roosevelt from motorized boating and PWC use would be similar to impacts on NPS-managed areas.

Implementation of this alternative would not result in an impairment of shoreline vegetation.

VISITOR USE AND EXPERIENCE

Pages 142–143, “Visitor Use and Experience” — Change alternative B as follows:

Impacts of Alternative B — Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. PWC use would be reinstated within the national recreation area as under alternative A, with additional management prescriptions. PWC operation would only be allowed to occur at flat-wake speed within 200 feet of launch ramps, marina facilities, campground areas, swim beaches, water skiers and other persons in the NPS designated waters, and on the stretch of the Spokane Arm from 100 feet west of the Two Rivers Marina to 100 feet east of the launch ramp above the vehicle bridge. PWC would be prohibited from use and launch on the Kettle River from the Hedlund Bridge upstream to the headwaters. In addition, the National Park Service would establish a monitoring program to determine if and when additional regulations would be needed. PWC use could potentially be further restricted in certain areas depending on the results of future monitoring.

Impact on PWC Users — The designation of flat-wake zones and prohibited use in the above mentioned areas would have a negligible to minor adverse impact on the experience of PWC users as all of Lake Roosevelt would still be accessible to PWC use, and the lake waters administered by tribal entities would not experience these restrictions. Implementation of the monitoring program would result in negligible ~~to major~~ adverse impacts on PWC users in later years, depending upon the results of monitoring. Overall, alternative B would have a long-term negligible to minor adverse impact on PWC users within the national recreation area.

Impact on Other Boaters — As under alternative A, other boaters at Lake Roosevelt National Recreation Area would interact with PWC operators and experience impacts similar to alternative A. The 200-foot flat-wake zone around launch ramps, marina facilities, and the no-wake zone on the stretch of the Spokane River at Two Rivers marina would benefit other boaters (motorized and non-motorized), as personal watercraft would be speed-restricted. In addition, the prohibited use of PWC on the Kettle River would also benefit other motorized and non-motorized boaters, as there would be less physical disturbance to other boaters. Boaters in other areas of the lake would see impacts similar to those under alternative A. Overall, long-term impacts on the experience of other boaters would be beneficial.

Impact on Other Visitors — As under alternative A, campers, swimmers, water skiers, anglers, hikers, and other shoreline visitors to the lake would interact with PWC users and experience long-term, beneficial impacts ~~similar to alternative A due to increased PWC restrictions and closures.~~ Swimmers and other persons in the water at shoreline areas that are also popular with personal watercraft would experience beneficial impacts as a result of the increased flat-wake zone designations. Shoreline campers would ~~experience a beneficial impact also benefit from these restrictions, especially in areas along the Kettle River due to the restrictions on PWC use.~~ Anglers, canoeists, and kayakers using the Kettle River would also experience beneficial impacts due to PWC restrictions there. Backcountry hikers would experience impacts similar to alternative A – negligible to minor adverse. Depending on the results of the PWC monitoring program, all visitors would experience ~~anywhere from negligible to minor adverse, to~~ beneficial impacts on their experience. Overall, implementation of alternative B would result in long-term, negligible to minor, beneficial impacts on ~~swimmers, shoreline campers, shoreline anglers, and water skiers, and negligible to minor adverse impacts on backcountry hikers~~ other visitors.

Cumulative Impacts. Cumulative impacts would be ~~the same as~~ similar to those described under alternative A. When combined with the long-term, negligible to minor, beneficial impacts described under alternative B, cumulative impacts related to the use of personal watercraft, motorized boats, and other visitor activities would be negligible to minor adverse over the short and long term and would be similar for visitors to tribal managed facilities and waters. Plans to expand or improve visitor facilities on Lake Roosevelt would contribute long-term beneficial impacts to all visitor groups due to the enhanced potential for distribution of visitor activities to prevent congestion.

Conclusion. Designation of the flat-wake zones and prohibited use on the Kettle River would have negligible to minor adverse impacts on most PWC users within the national recreation area since these areas would either not be accessible or would not be available for high-speed maneuvering. However, PWC use was low on the Kettle River prior to the November 2002 ban; therefore, the restricted PWC use under Alternative B would cause negligible adverse impacts to PWC users. In addition, the majority all of the lake surface would still be accessible to PWC users, resulting in long-term beneficial impacts to those users. Other boaters and shoreline users would experience long-term, negligible to minor beneficial impacts, especially at launch areas and high-use facilities. Swimmers, water skiers, and other persons in the water would also experience long-term, negligible to minor beneficial impacts ~~on their experience.~~

Cumulative effects of PWC use, other motorized boats, and other visitors would result in long-term, negligible to minor adverse impacts, while plans to improve or expand facilities would have long-term beneficial impacts on visitor experience within the national recreation area. Cumulative impacts from PWC use, motorized boats, and other visitors would also be applicable to adjacent tribal managed visitor use areas.

VISITOR CONFLICTS AND SAFETY

Page 149–150, “Visitor Conflicts and Safety” — Change alternative B as follows:

Impacts of Alternative B — Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. PWC use would be reinstated as under alternative A, but with additional management prescriptions. PWC operation would only be allowed to occur at no-wake speed within 200 feet of launch ramps, marina facilities, campground areas, swim beaches, water skiers and other persons in the NPS designated waters, and on the stretch of the Spokane Arm from 100 feet west of the Two Rivers Marina to 100 feet east of the launch ramp above the vehicle bridge. PWC use would be prohibited on the Kettle River from the Hedlund Bridge, north (upstream) to the headwaters. In addition, the National Park Service would establish a monitoring program to determine if and when additional regulations would be needed to protect visitor safety. PWC use could potentially be discontinued in certain areas depending on the results of monitoring.

Personal Watercraft /Swimmer Conflicts — The greatest potential for conflict between PWC users and swimmers is at the high-use areas near Spring Canyon, Porcupine Bay, Fort Spokane, Kettle Falls, and Bradbury Beach. The 200-foot no-wake designation around swim beaches would double the flat wake zone relative to state regulations and would result in a beneficial impact on swimmers at high-use areas.

The remaining park locations would experience little or no conflict between PWC users and swimmers. There are few swimmers in other areas of the park that are frequented by PWC users, including the Kettle River, where PWC would be prohibited. Thus conflicts in these segments would constitute negligible adverse impacts. Overall, implementation of alternative B would have a long-term, negligible to minor beneficial impact on the safety of swimmers.

Personal Watercraft/Other Boat Conflicts — Impacts on other boaters would be similar to alternative A on the majority of the lake – long term, negligible to minor adverse. However, prohibited PWC use on the Kettle River and speed restrictions near marinas, launch ramps, and on the stretch of the Spokane Arm near the Two Rivers marina would reduce the potential for conflict with other boaters in these areas. Prohibited use of PWC on the Kettle River could displace PWC users to adjacent or other waters of the recreation area. However, prior to the 2002 ban, PWC use on the Kettle River was minimal and increased PWC use in adjacent areas, such as Kettle Falls, would have negligible impacts on other boaters. Impact on other boaters in the launch areas and marinas under alternative B would be long-term, negligible to minor, and beneficial.

Overall, PWC use would have a negligible to minor adverse impact on conflicts and safety of boat users within the national recreation area. Management prescriptions would have beneficial impact on conflict and safety on boaters concentrated at high use areas and boat launches.

Personal Watercraft/Other Visitors Conflicts — PWC users and other visitors would interact under alternative B. However, the prohibited PWC use on the Kettle River, in addition to 200 foot no-wake designations around swim beaches, waterskiers, and persons in the water, would result in a long term beneficial impact on other visitors. Shoreline campers would also experience a beneficial impact on safety and conflict issues under this alternative.

Overall, implementation of alternative B would have a beneficial impact on the safety of swimmers.

Cumulative Impacts. Lake Roosevelt and its shoreline are used by a variety of visitors, including swimmers, motorboat users, kayakers, canoeists, campers, anglers, and hikers. All of these user groups interact with each other and occasionally come into conflict. Several of these user groups favor the same general location. Overall use within the national recreation area is expected to increase, and for this reason, the cumulative impact of the various user groups on visitor conflicts and safety under alternative B would be negligible to minor adverse over the short and long term. Planned national recreation area facility improvements would have beneficial impacts on the safety of all visitors, as in alternative A. Cumulative impacts to visitor conflict and safety in tribal managed areas would be ~~the same as in~~ similar to those described under alternative A, as management prescriptions under alternative B would not affect tribal managed areas.

Conclusion. Reinstated PWC use with additional PWC management prescriptions would have short- and long-term, negligible to minor beneficial impacts on visitor conflicts and safety near the designated swim areas, boat launches and marinas, and campgrounds, as well as ~~and a beneficial impact~~ on other visitors to Lake Roosevelt National Recreation Area. Cumulative impacts to visitor conflict and safety in tribal managed areas would be the same as in alternative A, as management prescriptions under alternative B would not affect tribal managed areas. Cumulative impacts related to visitor conflicts and safety would be negligible to minor adverse for all NPS user groups in the short and long term, particularly near the high use areas.

CULTURAL RESOURCES

Pages 153–155, “Cultural Resources” — Change text as follows:

Cumulative Impacts. PWC users, other boaters, and land-based user groups would continue to have access to remote areas with potentially listed archeological sites within the national recreation area. On a cumulative basis all visitor activities could result in minor to ~~major~~ moderate adverse impacts on those resources that are readily accessible, due to the number of visitors and potential for looting or vandalism. Resources in more remote areas that are not as readily accessible to visitors would likely still experience minor adverse impacts on a cumulative basis, but to a lesser degree. All impacts levels would continue at existing levels. Fluctuation in lake levels as a result of spring and late summer drawdowns and other storm events also present a minor to moderate threat of erosion. Spring drawdowns generally occur prior to heavy PWC use; however, drawdowns in late summer do occur during periods of heavy visitation. Archeological resources in areas managed by the Colville Confederated Tribes and Spokane Tribe of Indians could experience minor to moderate adverse impacts as a result of PWC and other visitor use for many of the same reasons discussed above.

Conclusion. PWC use within the national recreational area could have minor adverse impacts on listed or potentially listed archeological sites from possible illegal collection and vandalism or from erosion due to PWC-induced wave action. Cumulative impacts from other visitor use on archeological resources that are readily accessible could be minor to ~~major~~ moderate adverse, due to the number of visitors and the potential for illegal collection or destruction. Lake fluctuations would also potentially cause minor to moderate impacts through erosion. Archeological resources in areas managed by the Colville Confederated Tribes and Spokane Tribe of Indians would be similarly affected and could experience minor to moderate adverse impacts as a result of PWC and other visitor use. All impacts would occur over the short and long term.

Implementation of this alternative would not result in an impairment of cultural resources.

Impacts of Alternative B — Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. Impacts to archeological resources would be similar to those under alternative A, although prohibition of PWC along the Kettle River and creation or extension of flat-wake restrictions would reduce PWC-induced wave action, resulting in some beneficial impact. Prohibited use restrictions on the Kettle River may have negligible beneficial impacts on listed or potentially listed archeological sites in this area, as shoreline access by PWC would be restricted. Project by project inventories and a monitoring program would determine if and when additional regulations would be necessary to protect cultural resources, resulting in minor to moderate beneficial impacts. Long-term impacts to archeological resources would continue to be minor.

Cumulative Impacts. Visitor activities, such as motorized boating could result in minor to ~~major~~ moderate cumulative adverse impacts on those resources that are readily accessible, due to the number of visitors and the potential for looting or vandalism. Lake fluctuations would also potentially cause minor to moderate impacts through erosion. All impact levels would continue at existing levels, with lower impacts in areas with flat-wake restrictions or restricted use. Archeological resources in areas managed by the Colville Confederated Tribes and Spokane

Tribe of Indians would be similarly affected and could experience minor to moderate adverse impacts as a result of PWC and other visitor use for many of the same reasons discussed above.

Conclusion. Although additional flat-wake restrictions and use prohibitions on the Kettle River ~~restrictions~~ within the national recreation area would reduce wave action in some areas and provide a minor beneficial impact, PWC use could have minor adverse impacts on listed or potentially listed archeological resources from possible illegal collection and vandalism, similar to alternative A. Prohibited use restrictions on the Kettle River may have negligible beneficial impacts on listed or potentially listed archeological sites as shoreline access is limited in this area. In unrestricted areas, PWC-induced wave action could also have minor adverse impacts on listed or potentially listed archeological sites from erosion. All impact levels would continue at existing levels, with lower impacts in areas with flat-wake restrictions or restricted use.

Cumulative impacts from visitor activities on archeological resources that are readily accessible could be minor to ~~major~~moderate and adverse, due to the number of visitors and the potential for illegal collection or destruction. Lake fluctuations would also potentially cause minor to moderate impacts through erosion. Continuing PWC use under a special regulation is not expected to negatively affect the overall condition of cultural resources due to prohibited use areas and resource monitoring that would be conducted. Archeological resources in areas managed by the Colville Confederated Tribes and Spokane Tribe of Indians could experience minor to moderate adverse impacts as a result of PWC and other visitor use. All impacts would occur over the short and long term.

Implementation of this alternative would not result in an impairment of cultural resources.

Impacts of the No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt

Analysis. Under this alternative PWC use would be discontinued within the national recreation area eliminating impacts to archeological sites from PWC use within NPS-managed waters.

Cumulative Impacts. Although impacts from PWC use within the national recreation area would be eliminated, the effects of other watercraft users and land-based user groups would still have the potential for minor to ~~major~~moderate adverse cumulative impacts within the national recreation area. On a cumulative basis, potential visitor impacts from illegally collecting or damaging resources that are readily accessible would continue. Resources in more remote areas that are not as readily accessible to park visitors would likely still experience minor adverse impacts, but to a much less degree. While PWC use would be prohibited within areas of NPS jurisdiction under this alternative, PWC use within areas managed by the Colville Confederated Tribes and Spokane Tribe of Indians could continue. This continued PWC use in addition to other visitor use could result in minor to moderate adverse impacts to archeological resources within areas of tribal jurisdiction.

Conclusion. Prohibiting PWC use would result in minor beneficial impacts over the short and long term on archeological sites within the national recreation area. Cumulative impacts from all other visitor activities would continue to be minor to ~~major~~moderate, depending on the accessibility of the resource and the potential for illegal collection or damage. Lake fluctuations would also continue to cause minor to moderate impacts through erosion. Tribal archeological

resources would continue to experience minor to moderate cumulative effects from PWC and other visitor use. All impacts would occur over the short and long term.

SOCIOECONOMIC EFFECTS

Pages 157–158, “Socioeconomic Effects” — Change table and text as follows:

TABLE 34: IMPACTS OF ALTERNATIVES ON USER GROUPS

User Group	Alternative A: Reinstate PWC Use under a Special NPS Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Continue Prohibition of PWC Use on NPS-Managed Waters of Lake Roosevelt
2. Other visitors or potential visitors: canoe users, anglers, other boaters, swimmers, hikers and other visitors	No change in consumer surplus.	Consumer surplus is expected to increase slightly because noise and disturbance from personal watercraft will <u>would</u> be reduced with <u>restricted use on the Kettle River and additional</u> flat-wake zoning, but this effect will <u>would</u> be minimal due to the large number of other motorized watercraft present in the park, as well as in adjacent waters controlled by Indian tribes.	Increases in consumer surplus similar to, but larger than, benefits realized under alternative B. Consumer surplus is expected to increase for new visitors who would not have visited the park without these restrictions on PWC use.

Alternative A: Alternative A would have no effect on any of the user groups relative to conditions prior to the November 2002 ban on personal watercraft in NPS-administered portions of Lake Roosevelt. Consumer surplus to PWC riders would remain unchanged.

Alternative B: Under this alternative, it is anticipated that decrease in PWC use as a result of the regulation would be essentially zero. The prohibited use on the Kettle River, implementation of ~~additional~~ flat-wake zones, and resource monitoring as management strategies would not affect the number of visitors to the lake that use personal watercraft.

No-Action Alternative: The no-action alternative would result in a continued prohibition on PWC use in the national recreation area. PWC users would experience a moderate, short and long-term, adverse effect (decrease) on the full value of their consumer surplus for PWC use in the national recreation area. However, PWC use would continue in waters of Lake Roosevelt administered by the Spokane Tribe and Confederated Tribes of the Colville Reservation, offsetting some of the anticipated impact to consumer surplus.

ENVIRONMENTAL JUSTICE

Page 159, “Environmental Justice” — Change text as follows:

Impacts of Alternative B — Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. Under alternative B, PWC use would be managed using additional management prescriptions, including prohibited use on the Kettle River, additional flat wake speed zoning, and resource monitoring. These additional management prescriptions would be applicable within NPS-managed waters of Lake Roosevelt, and for all PWC users regardless of ethnic group or income level. As a result, impacts would be the same as for alternative A and there would be no adverse effects related to environmental justice, but there would be long-term beneficial effects to tribal managed facilities on reservation lands.

NATIONAL RECREATION AREA MANAGEMENT AND OPERATIONS

Page 162, “National Recreation Area Management and Operations” — Change text as follows:

Impacts of Alternative B — Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. PWC use under alternative B would be managed under current state boating regulations with additional management prescriptions included as a part of this alternative. These management strategies are more restrictive than state PWC regulations, and include prohibited use on the Kettle River, additional flat-wake speed zoning, and resource monitoring. The prescriptions are within the NPS legal mandate to regulate recreational activities under their jurisdiction, and there would be no conflict with state or other federal policies or regulations. Conflicts with regulations and policies of the Spokane Tribe of Indians and the Confederated Tribes of the Colville Reservation would exist due to differences in restrictions on the National Park Service versus tribal waters.

Impacts of Alternative B — Reinstate PWC Use under a Special NPS Regulation with Additional Management Prescriptions (Preferred Alternative)

Analysis. Reinstating PWC use within the recreation area with management prescriptions such as prohibited use on the Kettle River, increased flat-wake zoning, and resource monitoring would require increased education and enforcement actions by park staff. It is assumed that some PWC users would operate illegally, and park staffing would continue at current levels.

Cumulative Impacts. Cumulative impacts would be similar to those described for alternative A. Non-PWC boating activity would continue to place higher demands on enforcement staff than personal watercraft, which account for only 4 percent of total boat use on Lake Roosevelt. Additional education material or programs would be required to inform the public of new PWC management prescriptions within park waters of Lake Roosevelt.

Conclusion. Alternative B would have negligible to minor adverse impacts on park operations. Staffing would continue at current levels, though increased enforcement efforts would be required to implement additional flat-wake zoning and prohibited PWC use on the Kettle River. Additional educational efforts would also be required to inform PWC users of new regulations.

